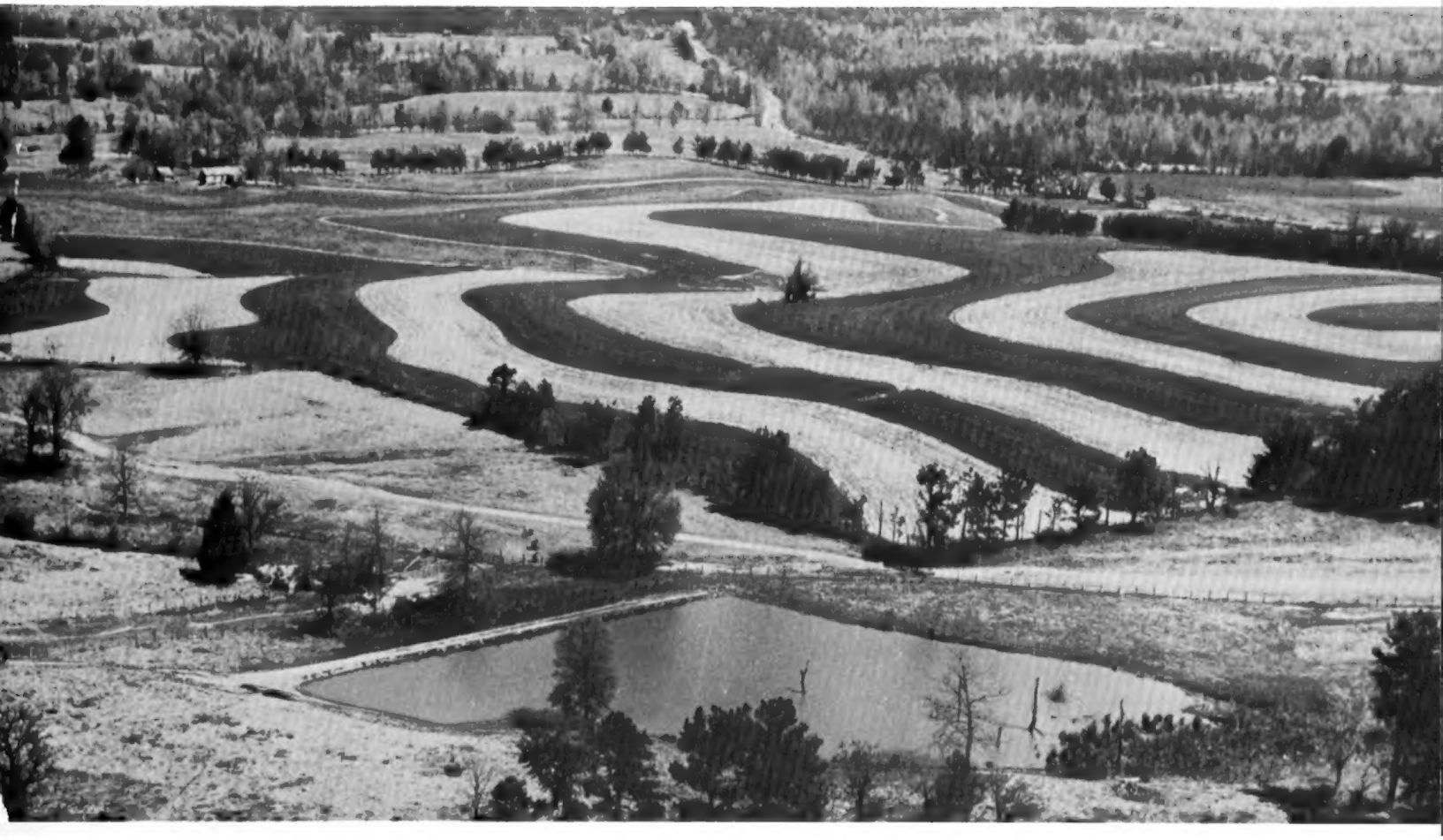
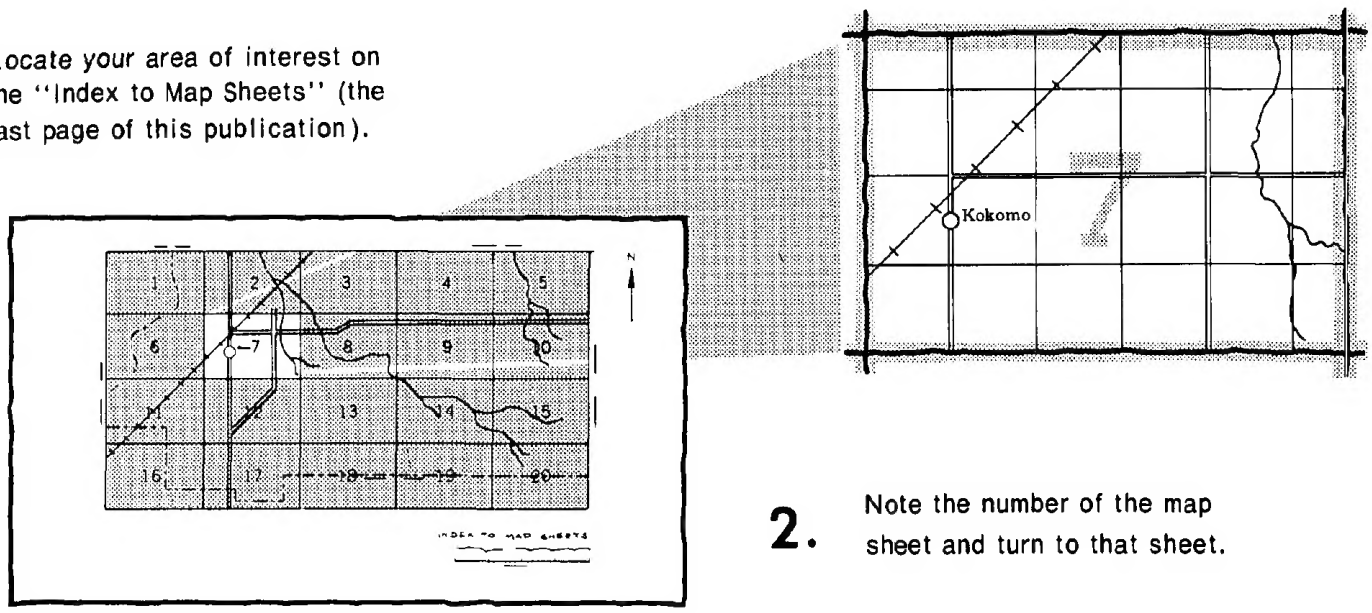
soil survey of Edgefield County, South Carolina



United States Department of Agriculture
Soil Conservation Service and Forest Service
in cooperation with
South Carolina Agricultural Experiment Station and
South Carolina Land Resources Conservation Commission

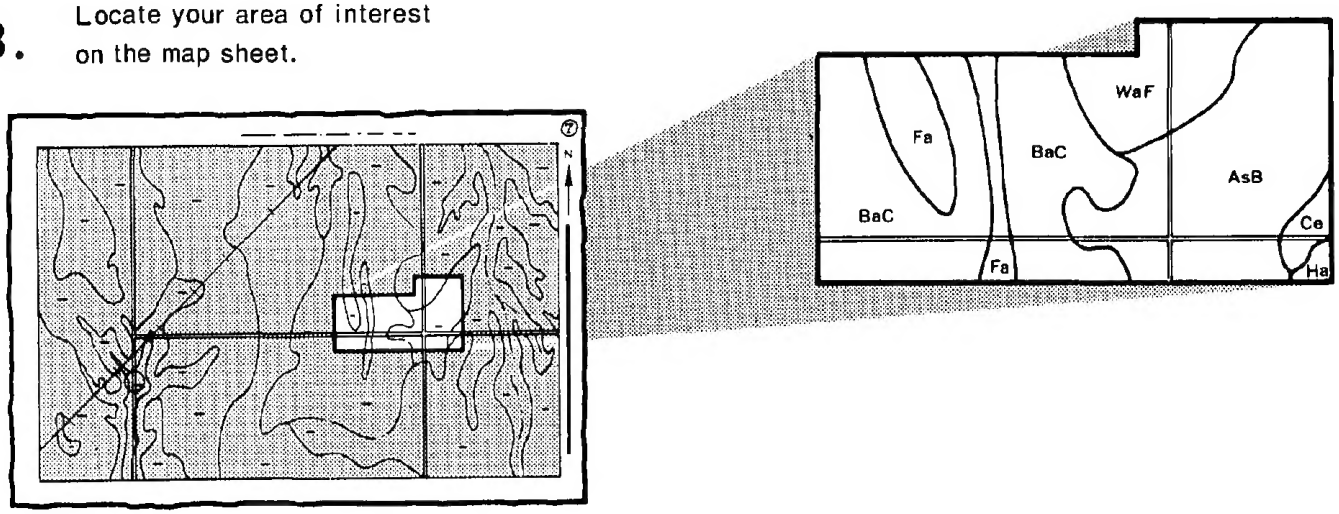
HOW TO USE

1. Locate your area of interest on the "Index to Map Sheets" (the last page of this publication).

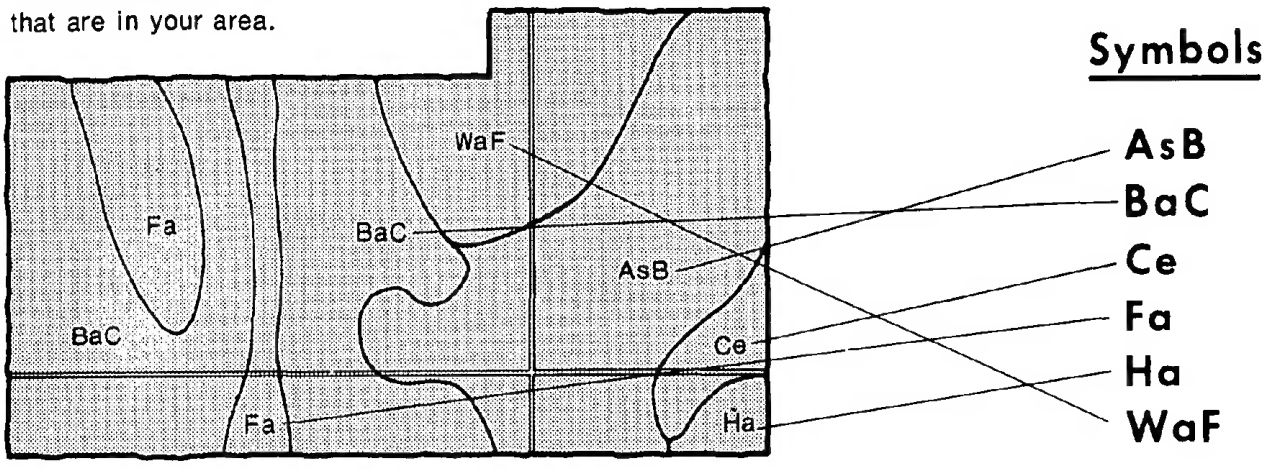


2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.

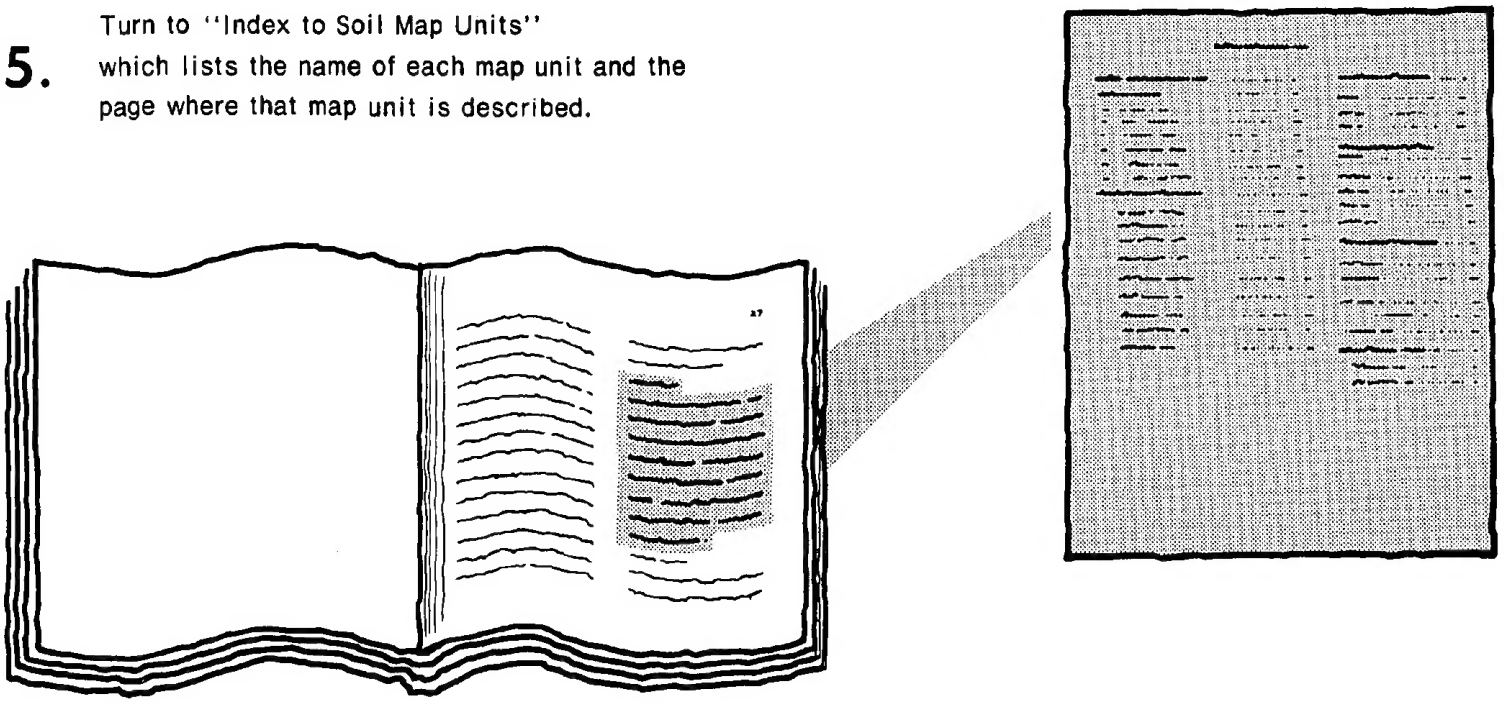


4. List the map unit symbols that are in your area.

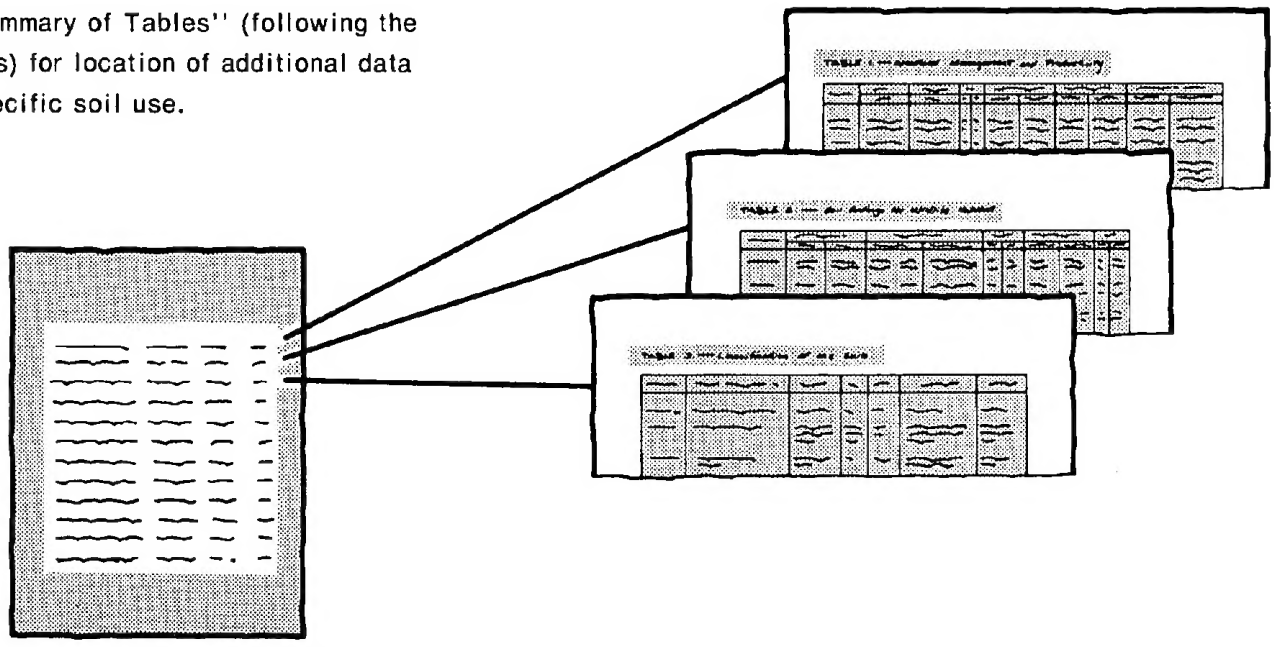


THIS SOIL SURVEY

5. Turn to "Index to Soil Map Units" which lists the name of each map unit and the page where that map unit is described.



6. See "Summary of Tables" (following the Contents) for location of additional data on a specific soil use.



7. Consult "Contents" for parts of the publication that will meet your specific needs. This survey contains useful information for farmers or ranchers, foresters or agronomists; for planners, community decision makers, engineers, developers, builders, or homebuyers; for conservationists, recreationists, teachers, or students; to specialists in wildlife management, waste disposal, or pollution control.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other federal agencies, state agencies including the Agricultural Experiment Stations, and local agencies. The Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was performed in the period 1970-77. Soil names and descriptions were approved in 1978. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1978. This survey was made cooperatively by the Soil Conservation Service, the Forest Service, the South Carolina Agricultural Experiment Station, and the South Carolina Land Resources Conservation Commission. It is part of the technical assistance furnished to the Edgefield County Soil and Water Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Cover: Farm pond and contour stripcropping on Cecil sandy loam, 2 to 6 percent slopes.

contents

Issued March 1981

index to soil map units

summary of tables

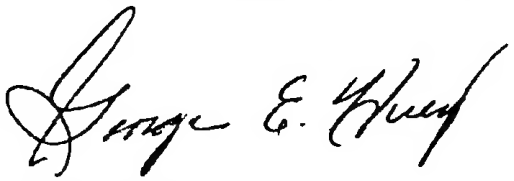
foreword

This soil survey contains information that can be used in land-planning programs in Edgefield County. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

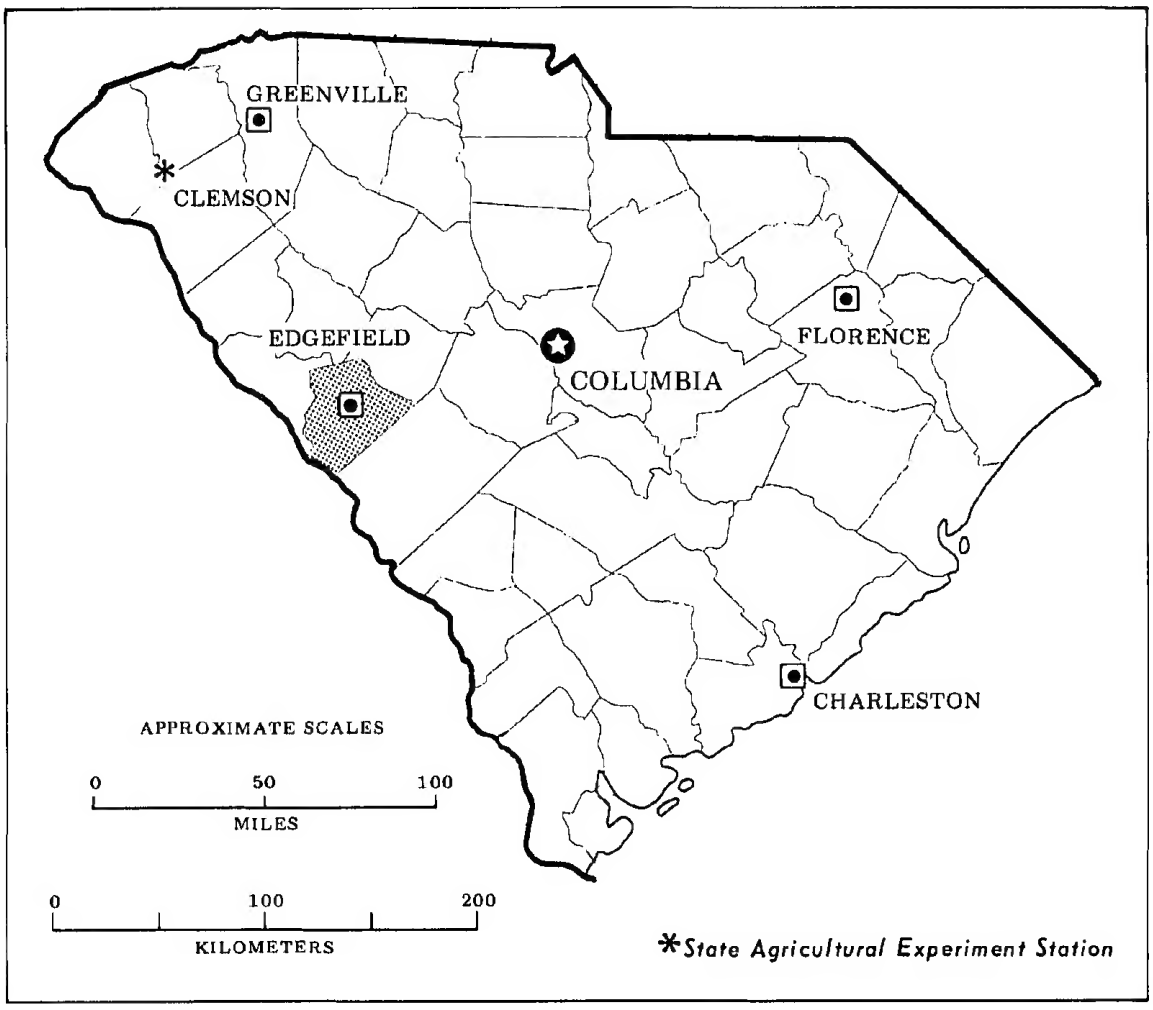
This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to insure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Soil Conservation Service or the Cooperative Extension Service.



George E. Huey
State Conservationist
Soil Conservation Service



Location of Edgefield County in South Carolina.

Soil Survey of Edgefield County, South Carolina

By E.C. Herren, Soil Conservation Service

Fieldwork by E.C. Herren, Soil Conservation Service; W.J. Camp and W.H. Fleming, South Carolina Land Resources Conservation Commission; and L.E. Andrew, Forest Service.

United States Department of Agriculture, Soil Conservation Service and Forest Service
In cooperation with South Carolina Agricultural Experiment Station and
South Carolina Land Resources Conservation Commission

EDGEFIELD COUNTY is in the western part of South Carolina. The Savannah River forms its southwestern boundary and separates it from the State of Georgia. It is bounded on the west by McCormick County, on the north by Greenwood, McCormick, and Saluda Counties, and on the southeast by Aiken County.

This county lies largely within the Southern Piedmont Land Resource Area. In this survey, this area will be referred to as the Piedmont Uplands. A small part of the county in the Southern Coastal Plain will be referred to as the Coastal Plain (*3*).

Edgefield County has an area of about 480 square miles or 308,000 acres. Elevation ranges from 147 feet at the Savannah River and Edgefield and Aiken County line to 678 feet at the top of a ridge northeast of Johnston near the Saluda and Edgefield County line. Edgefield, the county seat, is about in the geographic center of the county and has a population of about 3,000.

Most of the land is gently sloping or sloping, but areas near streams and along drainageways are generally moderately steep to steep. The soils are mostly well drained, except for some sandy soils which are excessively drained, a few depressions and first bottoms which are poorly drained or somewhat poorly drained, and a few areas which are moderately well drained.

An older survey of Edgefield County was published in 1938 (*11*). This survey updates the earlier survey and gives additional information about the county.

General nature of the county

Settlement of the county

For centuries before settlers came to what is now Edgefield County, the Cherokee Indians roamed the area. Before there was any permanent settlement, the area was crossed by roving traders who bought skins and furs from the Indians. The earliest permanent settlements in Edgefield County were made about 1748, probably along the Savannah River near the mouth of Stevens Creek or in the vicinity of Edgefield (*4*).

The Indians did not welcome the settlers and many battles were fought. Later, immigrants came from Pennsylvania, Maryland, Virginia, North Carolina, and Georgia, and refugees came from Charleston during the Revolutionary War. They were mostly of English, German, Scotch, Irish, Welsh, and French descent.

Edgefield County was formed in 1793 from territory known as the "Ninety-Six District." It included a large part of northern South Carolina ceded by the Cherokee Indians to the settlers in 1755 (*7*). For some time the county was known as Edgefield District. Parts of the original county area were taken to form a part of Aiken County in 1871, Saluda County in 1896, part of Greenwood County in 1897, and part of McCormick County in 1917. In 1922 slight changes were made in the McCormick-Edgefield County line (*11*). In 1968 minor changes were made in the Aiken-Edgefield County line.

The city of Edgefield is listed on the National Register of Historic Places because of its large number of antebellum homes and other important landmarks. There is an annual tour of these homes (*4*).

Natural resources

Soil is the most important resource in the county. Livestock that graze the grass and crops produced on farms are marketable products derived from the soil.

The county has abundant water for domestic use and for watering livestock. Most drainageways have running water. The Savannah and Edisto Rivers, Turkey and Stevens Creeks, and many farm ponds in the county have adequate water for future needs.

There are about 230,000 acres of woodland in Edgefield County.

Farming

Corn, oats, rye, wheat, grapes, sweet potatoes, and hemp were grown by the first settlers. Hogs, beef cattle, sheep, and horses were raised. Indigo, tobacco, flax, and cotton later became commercial products.

After the invention of the cotton gin and after railroads reached the county, cotton became the principal crop. As the forests were cleared and the land planted to cotton, the soils became severely eroded. In 1940 the Edgefield County Soil and Water Conservation District was organized. The Soil Conservation Service now provides technical assistance to farmers.

Most of the soils in the county have a loamy surface layer and are suited to cotton, corn, grain sorghum, soybeans, peaches, pasture, and other crops. Appling, Cataula, Cecil, Faceville, Georgeville, Herndon, Hiwassee, Marlboro, Norfolk, Orangeburg, and Wagram soils are mostly used for cultivated crops. These soils are well drained, but the more sloping areas are susceptible to erosion. Many of the areas are protected by grassed waterways, diversions, terraces, and by other means. Many of the steeper areas are used for pasture or woodland. About 23 percent of the county is used for cropland and pasture, 75 percent for woodland, and 2 percent for urban and other uses (*8*).

Most farm income is received from the sale of cultivated crops. Peaches rank first in production. The total agricultural income was almost 19 million dollars in 1976. The value of forest products in 1976 was about 6 million dollars.

Climate

Prepared by the National Climatic Center, Asheville, North Carolina.

Edgefield County is hot and generally humid in summer because of the moist maritime air. Winter temperatures are moderately cold but of short duration, because the mountains to the west protect the county. Precipitation is fairly evenly distributed throughout the year and is adequate for all crops.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Johnston, South Carolina in the period 1958 to 1975. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter the average temperature is 44 degrees F, and the average daily minimum temperature is 33 degrees. The lowest temperature on record, which occurred at Johnston on January 31, 1966, is 2 degrees. In summer the average temperature is 77 degrees, and the average daily maximum temperature is 88 degrees. The highest recorded temperature, which occurred at Johnston on June 15, 1958, is 106 degrees.

Growing degree days are shown in table 3. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

Of the total annual precipitation, 28 inches, or 55 percent, usually falls in April through September, which includes the growing season for most crops. In 2 years out of 10, the rainfall in April through September is less than 24 inches. The heaviest 1-day rainfall during the period of record was 6.35 inches at Johnston on August 30, 1964. Thunderstorms occur on about 50 days each year, and most occur in summer.

Snowfall is rare. In 65 percent of the winters, there is no measurable snowfall. In 35 percent, the snowfall, usually of short duration, is more than 2 inches. The heaviest 1-day snowfall on record was more than 7 inches.

The average relative humidity in midafternoon is about 50 percent. Humidity is higher at night, and the average at dawn is about 90 percent. The sun shines 70 percent of the time possible in summer and 60 percent in winter. The prevailing wind is from the southwest. Average windspeed is highest, 9 miles per hour, in April.

How this survey was made

Soil scientists made this survey to learn what soils are in the survey area, where they are, and how they can be used. They observed the steepness, length, and shape of slopes; the size of streams and the general pattern of drainage; the kinds of native plants or crops; and the kinds of rock. They dug many holes to study soil profiles. A profile is the sequence of natural layers, or horizons, in a soil. It extends from the surface down into the parent material, which has been changed very little by leaching or by plant roots.

The soil scientists recorded the characteristics of the profiles they studied and compared those profiles with others in nearby counties and in more distant places. They classified and named the soils according to nationwide uniform procedures. They drew the boundaries of the soils on aerial photographs. These photographs show trees, buildings, fields, roads, and other details that help in drawing boundaries accurately. The soil maps at the back of this publication were prepared from aerial photographs.

The areas shown on a soil map are called map units. Most map units are made up of one kind of soil. Some are made up of two or more kinds. The map units in this survey area are described under "General soil map for broad land use planning" and "Soil maps for detailed planning."

While a soil survey is in progress, samples of some soils are taken for laboratory measurements and for engineering tests. All soils are field tested to determine their characteristics. Interpretations of those characteristics may be modified during the survey. Data are assembled from other sources, such as test results, records, field experience, and state and local specialists. For example, data on crop yields under defined management are assembled from farm records and from field or plot experiments on the same kinds of soil.

But only part of a soil survey is done when the soils have been named, described, interpreted, and delineated on aerial photographs and when the laboratory data and other data have been assembled. The mass of detailed information then needs to be organized so that it can be used by farmers, woodland managers, engineers, planners, developers and builders, home buyers, and others.

General soil map for broad land use planning

The general soil map at the back of this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, a map unit consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one unit can occur in other units but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

The soils in the survey area vary widely in their suitability for major land uses. Table 4 shows the extent of the map units shown on the general soil map. It lists the suitability of each, in relation to that of the other map units, for major land uses and shows soil properties that limit use. Soil suitability ratings are based on the practices commonly used in the survey area to overcome soil limitations. These ratings reflect the ease of overcoming the limitations. They also reflect the problems that will persist even if such practices are used.

Each map unit is rated for *cultivated crops, pasture crops, woodland, urban uses,* and *intensive recreation areas.* Cultivated crops are those grown extensively in the survey area. Pasture refers to land that is producing either grasses that are native to the area or introduced varieties. Woodland refers to areas of native or introduced trees. Urban uses include residential, commercial, and industrial developments. Intensive recreation areas are campsites, picnic areas, ballfields, and other areas that are subject to heavy foot traffic.

Soil units and delineations of the general soil map in this soil survey do not fully agree with those of the general soil maps in adjacent counties published at a different date. Differences in the maps are the result of improvements in the classification of soils, particularly in the modifications or refinements in soil series concepts.

1. Cecil-Pacolet

Deep, strongly sloping and moderately steep, well drained soils that have a loamy surface layer and a clayey subsoil

Areas of these strongly sloping to moderately steep soils are adjacent to the Savannah and Edisto Rivers and their tributaries; and near the breaks of Beech, Stevens, Cheves, Horn, Lloyd, Ray, and Gundy Creeks and their tributaries. These soils are in the southern part of the county.

This map unit makes up about 15 percent of the county. It is about 46 percent Cecil soils, 20 percent Pacolet soils, and 34 percent soils of minor extent.

Cecil and Pacolet soils are at similar elevations. They have a loamy surface layer and a red clayey subsoil. Cecil soils have a thicker solum than Pacolet soils.

Included with these soils in mapping are the well drained Appling, Wateree, Riverview, and Toccoa soils; the somewhat poorly drained Chewacla soils; and the poorly drained Enoree soils.

These soils are used mainly for woodland, but some areas are used for pasture. They have poor suitability for cultivated crops and fair suitability for pasture. Steepness of slope, which is the main limitation for farming and other uses, is difficult to overcome. The soils have fair suitability for woodland and woodland wildlife habitat. They have poor suitability for urban and recreation uses. The moderately steep slopes severely limit use, and the limitation is difficult to overcome.

2. Cecil-Cataula-Hiwassee

Deep, gently sloping to strongly sloping, well drained soils that have a loamy surface layer and a mostly clayey subsoil

Areas of these gently sloping to strongly sloping soils are on broad to narrow ridges that are dissected by a few long, shallow, well developed drainageways. These soils are throughout the central and southwestern parts of the county.

This map unit makes up about 21 percent of the county. It is about 42 percent Cecil soils, 25 percent Cataula soils, 10 percent Hiwassee soils, and 23 percent soils of minor extent.

In most places, Cecil and Hiwassee soils are at a slightly higher elevation than Cataula soils. All of these soils have a loamy surface layer. Cecil soils have a red clayey subsoil, and Hiwassee soils have a dark red clayey subsoil. Cataula soils have a red clayey and dense, brittle, red and yellowish red loamy subsoil.

Included with these soils in mapping are the well drained Appling, Davidson, Winnsboro, Durham, Mecklenburg, Riverview, Pacolet, and Toccoa soils; the somewhat poorly drained Chewacla soils; and the moderately well drained Helena soils.

Most of the acreage of these soils has been cleared, but some areas have reverted to woodland. Cleared areas are used mainly for cultivated crops, pasture, or urban development. The soils have good suitability for cultivated crops, pasture, woodland, and woodland wildlife habitat. They have fair suitability for peaches and for urban and recreation uses. Erosion and slope are the main limitations to use. The slow permeability of the Cataula soils severely limits use for septic tank absorption fields, and this limitation is very difficult to overcome.

3. Appling-Durham-Cataula

Deep, gently sloping to sloping, well drained soils that have a loamy or a sandy surface layer and a clayey or a loamy subsoil

Areas of these gently sloping to sloping soils are on broad and medium ridges that are dissected by a few long, shallow drainageways. These soils are in the northwestern part of the county.

This map unit makes up about 2 percent of the county. It is about 40 percent Appling soils, 31 percent Durham soils, 20 percent Cataula soils, and 9 percent soils of minor extent.

Appling soils have a loamy surface layer and a yellowish red clayey subsoil. Durham soils have a sandy surface layer and a yellowish brown loamy subsoil. Cataula soils have a loamy surface layer and a red, clayey and dense, brittle, red and yellowish red loamy subsoil.

Included with these soils in mapping are the well drained Cecil, Hiwassee, and Toccoa soils; the moderately well drained Helena soils; and the somewhat poorly drained Chewacla soils.

Most of the acreage of these soils has been cleared, but some areas have reverted to woodland. Cleared areas are used mainly for cultivated crops and pasture. The soils have good suitability for cultivated crops, pasture, woodland, woodland wildlife habitat, and urban and recreation uses. They have fair suitability for peaches. Some areas of Durham soils have rock outcrop. These included areas are poorly suited to most uses. Erosion and slope are the main limitations to use.

4. Georgeville-Herndon-Kirksey

Deep, gently sloping to sloping, well drained and moderately well drained soils that have a silty surface layer and a clayey, a loamy, or a silty subsoil

Areas of these gently sloping to sloping soils are on broad and medium ridges that are dissected by long, shallow, well developed drainageways. These soils are throughout the northern part of the county.

This map unit makes up about 30 percent of the county. It is about 42 percent Georgeville soils, 31 percent Herndon soils, 11 percent Kirksey soils, and 16 percent soils of minor extent.

Georgeville and Herndon soils are at a slightly higher elevation than Kirksey soils. All of the soils have a silty surface layer. Georgeville soils have a red clayey subsoil, and Herndon soils have a yellowish red to yellowish brown clayey and loamy subsoil. Kirksey soils have a yellowish brown and brownish yellow silty subsoil.

Included with these soils in mapping are the well drained Gundy, Goldston, Nason, Winnsboro, Toccoa, and Riverview soils and the somewhat poorly drained Chewacla soils.

Most of the acreage of these soils has been cleared, but some areas have reverted to woodland. Cleared areas are used mainly for cultivated crops and pasture. The soils have good suitability for most cultivated crops, pasture, woodland, openland wildlife habitat, and most urban and recreation uses. They have fair suitability for peaches. Erosion and slope are the main limitations to use.

5. Gundy-Goldston-Nason

Deep to moderately deep, sloping to steep, well drained soils that have a silty or a loamy surface layer and a clayey, a loamy, or a silty subsoil

Areas of these sloping to steep soils are on narrow ridges and side slopes adjacent to drainageways. These soils are along the Stevens, Turkey, Beaverdam, Log, Rock, Sleepy, Mountain, Rocky, and Cyper Creeks and their tributaries.

This map unit makes up about 10 percent of the county. It is about 26 percent Gundy soils, 23 percent Goldston soils, 16 percent Nason soils, and 35 percent soils of minor extent.

Gundy soils have a silty surface layer, Nason soils have a loamy surface layer, and Goldston soils have a silty, slaty surface layer. Gundy soils have a red clayey and loamy subsoil, Goldston soils have a yellowish brown silty subsoil that is 35 percent or more fragments of slate, and Nason soils have a yellowish red clayey subsoil.

Included with these soils in mapping are the well drained Georgeville, Herndon, Mecklenburg, Riverview, Toccoa, and Winnsboro soils; the moderately well drained Kirksey soils; and the somewhat poorly drained Chewacla soils.

These soils are used mainly for woodland, but some areas are used for pasture. They have fair suitability for woodland, woodland wildlife habitat, pasture, and for urban and recreation uses. Suitability is poor for cultivated crops. Steep slopes are the main limitation to use.

6. Wagram-Faceville-Norfolk

Deep, nearly level to sloping, well drained soils that have a sandy or a loamy surface layer and a loamy or a clayey subsoil

Areas of these nearly level to sloping soils are on broad and narrow ridges that are dissected by a few long, shallow, well developed drainageways. These soils are in the eastern part of the county.

This map unit makes up about 12 percent of the county. It is about 36 percent Wagram soils, 33 percent Faceville soils, 17 percent Norfolk soils, and 14 percent soils of minor extent.

In most places, Wagram soils are at a slightly higher elevation than Faceville and Norfolk soils. Wagram soils have a sandy surface layer and a brownish yellow to yellowish brown loamy subsoil. Faceville soils have a loamy surface layer and a red to yellowish red clayey

subsoil. Norfolk soils have a sandy surface layer and a yellowish brown to red loamy subsoil.

Included with these soils in mapping are the excessively drained Lakeland soils; the somewhat excessively drained Eustis soils; the well drained Marlboro, Orangeburg, and Troup soils; and the poorly drained Rembert soils.

Most of the acreage is cleared, but small areas are wooded. These soils are used mainly for cultivated crops and peaches. They have good suitability for cultivated crops, peaches, pasture, woodland, and woodland wildlife habitat and for urban uses. Suitability is fair for recreation uses. Erosion and slope are the main limitations to use.

7. Lakeland-Troup-Wagram

Deep, nearly level to moderately steep, excessively drained and well drained soils that have a sandy surface layer and a loamy subsoil or sandy underlying material

Areas of these nearly level to moderately steep soils are on broad and medium ridges that are dissected by long, well developed drainageways. These soils are in the southeastern part of the county.

This map unit makes up about 10 percent of the county. It is about 43 percent Lakeland soils, 19 percent Troup soils, 13 percent Wagram soils, and 25 percent soils of minor extent.

In most places, Lakeland and Troup soils are at a slightly higher elevation than Wagram soils. Lakeland soils have a sandy surface layer and yellowish brown to strong brown sandy underlying material. Troup soils have a sandy surface layer and a strong brown to yellowish brown loamy subsoil. Wagram soils have a sandy surface layer and a brownish yellow to yellowish brown loamy subsoil.

Included with these soils in mapping are the somewhat excessively drained Eustis soils, the well drained Faceville, Marlboro, Norfolk, and Orangeburg soils, and the poorly drained Rembert soils.

These soils are used mainly for cultivated crops, pasture, and woodland. They have good suitability for pasture and urban uses and fair suitability for woodland, woodland wildlife habitat, and recreation uses. Suitability is poor for cultivated crops and peaches. The sandy, droughty condition of the soils is the main limitation to use.

Broad land use considerations

The selection of land to be taken for urban development is an important issue in Edgefield County. Each year a considerable amount of land is taken for urban development in Edgefield, Johnston, and other areas of the county. The general soil map is helpful for planning the general outline of urban areas; it cannot be used for the selection of sites for specific urban structures. In general, the soils in the survey area that have good suitability for cultivated crops also have good suitability for urban development. The data about specific soils in this survey can be helpful in planning future land use patterns.

Most areas of the soils are favorable for urban development. Slope is a severe limitation for urban development in large parts of the Cecil-Pacolet map unit and the Gundy-Goldston-Nason map unit and is very costly to overcome; however, many areas can be developed for urban uses at a lower cost than these units. Suited to urban development are parts of the Cecil-Cataula-Hiwassee map unit, the Appling-Durham-Cataula map unit, and the Georgeville-Herndon-Kirksey map unit. Most soils of the Wagram-Faceville-Norfolk map unit and the Lakeland-Troup-Wagram map unit can be used for urban development, but areas in flood plains and on wet upland areas are not suited.

In some areas,soils that have poor suitability for cultivated crops have fair suitability for urban uses. These areas are identified as unit 7 on the general soil map. The dominant soils in this map unit are Lakeland, Troup, and Wagram soils. Because these soils are sandy and droughty, they are limited to use for cultivated crops.

All of the soils in Edgefield County have good or fair suitability for woodland. Some soils in the Cecil-Pacolet map unit and the Gundy-Goldston-Nason map unit are good sites for parks and recreation areas. Hardwood forests enhance the beauty of many areas.

Soil maps for detailed planning

The map units on the detailed soil maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability of a soil for specific uses. They also can be used to plan the management needed for those uses. More information on each map unit, or soil, is given under "Use and management of the soils."

Each map unit on the detailed soil maps represents an area on the landscape and consists of one or more soils for which the unit is named.

A symbol identifying the soil precedes the map unit name in the soil descriptions. Each description includes general facts about the soil, a brief description of the soil profile, and a listing of the principal hazards and limitations to be considered in planning management.

This survey has both narrowly defined and broadly defined units. Broadly defined units are more variable in composition than other units but can be interpreted for the expected uses of the soils. They are indicated by symbols in which all letters are capitals. They are also indicated by a footnote on the soil legend at the back of this publication.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying material, all the soils of

a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying material. They also can differ in slope, stoniness, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Cecil sandy loam, 2 to 6 percent slopes, is one of several phases in the Cecil series.

Some map units are made up of two or more major soils. These map units are called soil complexes or undifferentiated groups.

A *soil complex* consists of two or more soils in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils are somewhat similar in all areas. Cecil-Pacolet complex, 15 to 25 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils in a mapped area are not uniform. An area can be made up of only one of the major soils, or it can be made up of all of them. Lakeland and Troup sands, 15 to 25 percent slopes, is an undifferentiated group in this survey area.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

Table 5 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of tables") give properties of the soils and the limitations, capabilities, and suitabilities for many uses. The Glossary defines many of the terms used in describing the soils.

ApB—Appling sandy loam, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad, irregularly shaped ridges of the Piedmont Uplands. Slopes are smooth and convex. Areas are 4 to about 150 acres.

Typically, the surface layer is brown sandy loam about 7 inches thick. The subsurface layer is very pale brown sandy loam about 3 inches thick. The subsoil extends to a depth of 56 inches. It is yellowish red clay between the depth of 10 and 21 inches and yellowish red clay that has yellow and red mottles between the depth of 21 and 31 inches. It is mottled yellowish red, reddish yellow, and very pale brown clay between the depth of 31 and 45 inches and yellowish red clay loam that has red, white, and reddish yellow mottles between the depth of 45 and 56 inches. The substratum, to a depth of 72 inches or more, is yellowish red loam that has reddish yellow and white mottles.

Included with this soil in mapping are a few small areas of somewhat poorly drained soils in concave areas and along narrow drainageways and a few small areas that have slopes of more than 6 percent. Also included are a few small areas of Cataula, Cecil, and Helena soils. The included soils make up about 10 percent of this unit.

This Appling soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface and subsurface layers in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for hay, pasture, row crops, and small grain. It has fair suitability for peaches. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help reduce runoff and control erosion.

Suitability is fair for loblolly pine and yellow-poplar. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but operation of the filter system can be improved by increasing the size of the absorption area. The soil has good suitability for recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 3o.

ApC—Appling sandy loam, 6 to 10 percent slopes. This deep, well drained, sloping soil is on irregularly shaped ridges and along slopes adjacent to and at the heads of shallow drainageways of the Piedmont Uplands. Slopes generally are smooth and convex. Areas are 4 to about 80 acres.

Typically, the surface layer is brown sandy loam about 7 inches thick. The subsurface layer is very pale brown sandy loam about 3 inches thick. The subsoil extends to a depth of 56 inches. It is yellowish red clay between the depth of 10 and 21 inches and yellowish red clay that has yellow and red mottles between the depth of 21 and 31 inches. It is mottled yellowish red, reddish yellow, and very pale brown clay between the depth of 31 and 45 inches and yellowish red clay loam that has red, white, and reddish yellow mottles between the depth of 45 and 56 inches. The substratum, to a depth of 72 inches or

more, is yellowish red loam that has reddish yellow and white mottles.

Included with this soil in mapping are a few small areas of somewhat poorly drained soils in small concave areas and along narrow drainageways and a few small areas that have slopes of less than 6 percent or more than 10 percent. Also included are a few small areas of Cataula, Cecil, and Helena soils. The included soils make up about 15 percent of this unit.

This Appling soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface and subsurface layers in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for row crops, small grain, and peaches. Use is limited because of slope. The soil has good suitability for hay and pasture. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help reduce runoff and control erosion.

Suitability is fair for loblolly pine and yellow-poplar. There are no significant limitations for woodland use and management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Slope is a moderate limitation, but excavating and filling can reduce the slope. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but increasing the size of the absorption area improves the operation of the filter system. The soil has good suitability for most recreation areas.

The capability subclass is IIIe, and the woodland ordination symbol is 3o.

CaB—Cataula sandy loam, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad ridges adjacent to shallow drainageways and at the heads of drainageways. Slopes are smooth and generally convex. Areas are 4 to about 100 acres.

Typically, the surface layer is brown sandy loam about 7 inches thick. The subsoil extends to a depth of 70 inches or more. It is red clay that has mottles of reddish yellow between the depth of 7 and 26 inches. Red and dark red, dense brittle clay loam and sandy clay loam that has thin alternating layers of strong brown, reddish yellow, and light yellowish brown clay are between the depth of 26 and 53 inches. The alternating layers have gray mottles (fig. 1). The lower part of the subsoil, between the depth of 53 and 70 inches, is red clay loam that has reddish yellow, very pale brown, and light gray mottles.

Figure 1.—Profile of Cataula sandy loam, 2 to 6 percent slopes. The thin alternating layers of the fragipan are at a depth of about 30 inches.

Included with this soil in mapping are a few small areas that have slopes of more than 6 percent and a few small, eroded areas that have a surface layer of sandy clay loam or clay loam. Also included are a few small areas of Appling, Cecil, Davidson, Helena, and Hiwassee soils. The included soils make up about 15 percent of the unit.

This Cataula soil is low in content of organic matter. It is medium acid to very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is slow, and available water capacity is medium to low. The soil can be cultivated throughout a medium range of moisture conditions. The root zone is shallow to moderately deep to a dense brittle layer which restricts root development and water movement.

This soil has good suitability for most row crops, small grain, hay, and pasture and fair suitability for peaches. Suitability is limited for peaches because root penetration is restricted by the dense brittle layer. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and most hardwoods. There are no significant limitations for woodland use or management.

This soil has fair suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. The shrink-swell potential is a limitation that can be overcome by excavating and filling with more desirable material or by reinforcing foundations. Slow permeability of the dense brittle layer is a severe limitation for septic tank absorption fields, but operation of the filter system can be improved by increasing the size of the absorption area or, in places, by installing the filter line beneath the dense brittle layer. The soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 3o.

CaC—Cataula sandy loam, 6 to 10 percent slopes. This deep, well drained, sloping soil is on narrow ridges and side slopes adjacent to and at the heads of drainageways. Slopes are smooth and convex. Areas are 4 to about 50 acres.

Typically, the surface layer is brown sandy loam about 7 inches thick. The subsoil extends to a depth of 70 inches or more. It is red clay that has mottles of reddish yellow between the depth of 7 and 26 inches. Red and dark red, dense brittle clay loam and sandy clay loam that has thin, alternating layers of strong brown, reddish yellow, and light yellowish brown clay are between the depth of 26 and 53 inches. The alternating layers have gray mottles. The lower part of the subsoil, between the depth of 53 and 70 inches, is red clay loam that has reddish yellow, very pale brown, and light gray mottles.

Included with this soil in mapping are a few small areas that have slopes of less than 6 percent and a few small areas that have slopes of more than 10 percent. In places there are a few small eroded areas that have a surface layer of sandy clay loam or clay loam. Also included are a few small areas of Appling, Cecil, Davidson, Helena, and Hiwassee soils. The included soils make up about 15 percent of this unit.

This Cataula soil is low in content of organic matter. It is medium acid to very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is slow, and available water capacity is medium to low. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is shallow to moderately deep to a dense brittle layer, which restricts root development and water movement.

This soil has fair suitability for most row crops, hay, peaches, and small grain. It has good suitability for pasture. Suitability is limited because root penetration is restricted in the dense brittle layer and because of the slope. Erosion is a very severe hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and most hardwoods. There are no significant limitations for woodland use or management.

This soil has fair suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Slope and the shrink-swell potential are limitations. Cutting and filling can reduce the slope. The potential for shrink-swell can be overcome by excavating and filling with more desirable material or by reinforcing foundations. The slow permeability of the dense brittle layer is a severe limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area or, in places, by installing the filter line below the dense brittle layer. The soil has fair suitability for most recreation uses.

The capability subclass is IVe, and the woodland ordination symbol is 3o.

CcB—Cecil sandy loam, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad ridges and gentle slopes adjacent to drainageways. Slopes are smooth and convex. Areas are 4 to about 400 acres.

Typically, the surface layer is brown sandy loam about 6 inches thick. The subsoil extends to a depth of 57 inches. It is red clay between the depth of 6 and 48 inches and red clay loam between the depth of 48 and 57 inches. The substratum is red loam to a depth of 70 inches or more.

Included with this soil in mapping are a few small areas that have slopes of more than 6 percent, and in places, a few small eroded areas that have a surface layer of sandy clay loam or clay loam. Also included are a few small areas of Appling, Cataula, Davidson, Helena, Hiwassee, and Mecklenburg soils. The included soils make up about 15 percent of this unit.

This Cecil soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep (fig. 2) and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, and pasture. It has fair suitability for peaches and hay. Erosion is a moderate hazard if cultivated crops are

Figure 2.—Profile of Cecil sandy loam, 2 to 6 percent slopes. This soil has a deep root zone.

grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. The shrink-swell potential is a limitation, but excavating and filling with more desirable material or reinforcing foundations can overcome this limitation. Moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. The soil has good suitability for most recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 3o.

CcC—Cecil sandy loam, 6 to 10 percent slopes. This deep, well drained, sloping soil is on narrow ridges and side slopes adjacent to drainageways. Slopes are smooth and convex. Areas are 4 to about 100 acres.

Typically, the surface layer is brown sandy loam about 6 inches thick. The subsoil extends to a depth of 57 inches. It is red clay between the depth of 6 and 48 inches and red clay loam between the depth of 48 and 57 inches. The substratum is red loam to a depth of 70 inches or more.

Included with this soil in mapping are a few small areas that have slopes of less than 6 percent and a few small areas that have slopes of more than 10 percent. In places there are a few small eroded areas that have a surface layer of sandy clay loam or clay loam. Also included are a few small areas of Appling, Cataula, Davidson, Hiwassee, and Mecklenburg soils. The included soils make up about 15 percent of this unit.

This Cecil soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, and pasture and fair suitability for peaches and hay. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. The shrink-swell potential and slope are limitations. The slope limitation can be overcome by cutting and filling to reduce the slope, and the potential for shrink-swell can be overcome by excavating and filling with more desirable material or by reinforcing the foundations. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. This soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 3o.

CcD—Cecil sandy loam, 10 to 15 percent slopes. This deep, well drained, strongly sloping soil is on slopes

adjacent to and at the heads of medium and larger drainageways. Slopes are smooth and convex. Areas are 4 to about 30 acres.

Typically, the surface layer is brown sandy loam about 6 inches thick. The subsoil extends to a depth of 57 inches. It is red clay between the depth of 6 and 48 inches and red clay loam between the depth of 48 and 57 inches. The substratum is red loam to a depth of 70 inches or more.

Included with this soil in mapping are a few small areas that have slopes of less than 10 percent and a few small areas that have slopes of more than 15 percent. In places there are a few small eroded areas that have a surface layer of sandy clay loam or clay loam. Also included are a few small areas of Cataula, Hiwassee, Pacolet, and Wilkes soils. The included soils make up about 15 percent of this unit.

This Cecil soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for row crops, hay, and peaches, but suitability is limited because of the strong slopes. It has good suitability for pasture. Erosion is a very severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. The shrink-swell potential and slope are limitations. The slope limitation can be overcome by cutting and filling to reduce the slope, and the potential for shrink-swell can be overcome by excavating and filling with more desirable material or by reinforcing foundations. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. This soil has fair suitability for most recreation uses.

The capability subclass is IVe, and the woodland ordination symbol is 3o.

CeC2—Cecil sandy clay loam, 2 to 10 percent slopes, eroded. This deep, well drained, gently sloping and sloping soil is on narrow ridges and areas adjacent to and at the heads of drainageways. The surface layer is a mixture of topsoil and subsoil. Slopes are smooth and convex. Areas are 4 to about 50 acres.

Typically, the surface layer is red sandy clay loam about 3 inches thick. The subsoil extends to a depth of 54 inches. It is red clay between the depth of 3 and 45 inches and red clay loam between the depth of 45 and 54 inches. The substratum is red loam to a depth of 70 inches or more.

Included with this soil in mapping are a few small areas that have slopes of more than 10 percent. In places there are a few deep gullies. Also included are a few small areas of Appling, Cataula, Helena, Hiwassee, and Mecklenburg soils. The included soils make up about 10 percent of this unit.

This Cecil soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated only within a narrow range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for row crops, hay, peaches, and pasture and has good suitability for small grain. Suitability is limited because of slope and the thin surface layer. Erosion is a very severe hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. The sandy clay loam surface layer increases the hazard of erosion, and it is a moderate limitation for the use of equipment and the growth of seedlings.

This soil has fair suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. The shrink-swell potential and slope are limitations. The slope limitation can be overcome by cutting and filling to reduce the slopes, and the potential for shrink-swell can be overcome by excavating and filling with more desirable material or by reinforcing foundations. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but this limitation can be overcome by increasing the size of the absorption area. This soil has fair suitability for most recreation uses.

The capability subclass is IVe, and the woodland ordination symbol is 4c.

CpE—Cecil-Pacolet complex, 15 to 25 percent slopes. This complex consists of areas of Cecil and Pacolet soils that are so intermingled that they could not be separated at the scale selected for mapping. Cecil soils commonly are on the moderately steep, narrow ridges and side slopes. Pacolet soils commonly are on the small knolls and moderately steep side slopes adjacent to streams. These soils are deep and well drained. Areas are 10 to about 100 acres.

Cecil sandy loam makes up about 50 percent of each mapped area. Typically, the surface layer is brown sandy loam about 6 inches thick. The subsoil extends to a

depth of 57 inches. It is red clay between the depth of 6 to 48 inches and red clay loam between the depth of 48 and 57 inches. The substratum is red loam to a depth of 70 inches or more.

Pacolet sandy loam makes up about 40 percent of each mapped area. Typically, the surface layer is grayish brown sandy loam about 3 inches thick. The subsurface layer is brown sandy loam 5 inches thick. The subsoil extends to a depth of 40 inches. It is red clay between the depth of 8 and 16 inches, red clay that has reddish yellow mottles between the depth of 16 and 27 inches, and red clay loam that has reddish yellow mottles between the depth of 27 and 40 inches. The substratum, to a depth of 62 inches, is finely mottled yellowish red, dark brown, strong brown, yellow, very pale brown, and light gray sandy loam.

This Cecil-Pacolet complex is low in content of organic matter. The Cecil soils are strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. The Pacolet soils are medium acid to very strongly acid throughout except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This complex can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This complex has poor suitability for row crops, peaches, small grain, and hay and fair suitability for pasture. Suitability is limited because of the moderately steep and steep slopes. Erosion is a very severe hazard if cultivated crops are grown. Because of the very severe erosion hazard, cultivation of these soils is not recommended. Use of the soils for permanent sod or trees is a suitable management practice.

Suitability is fair for loblolly pine, shortleaf pine, and yellow-poplar. The moderately steep and steep slopes are a moderate limitation for use of equipment and in managing the tree crop. Erosion is a hazard.

This complex has poor suitability for openland wildlife habitat, fair suitability for woodland wildlife habitat, and very poor suitability for wetland wildlife habitat.

This complex has poor suitability for urban uses. Suitability is limited because of the moderately steep and steep slopes, but steepness can be reduced by cutting and filling. Steepness of slope is a severe limitation for septic tank absorption fields. Proper layout of the filter field can modify this limitation, but proper functioning of the filter field is difficult to achieve. Because of the moderately steep and steep slopes, this complex has poor suitability for most recreation uses.

The capability subclass is VIe, and the woodland ordination symbol is 3r.

Cw—Chewacla loam. This deep, somewhat poorly drained, nearly level soil is on narrow, elongated flood plains alongside the larger streams. Flooding is common for brief periods from November to April. Areas are 20 to 150 acres.

Typically, the surface layer is brown loam about 6 inches thick. The subsoil extends to a depth of 72 inches or more. Between the depth of 6 and 22 inches, it is dark yellowish brown loam that has black mottles and mottled dark yellowish brown, pale brown, light brownish gray, and black loam. Between the depth of 22 and 59 inches, it is light brownish gray, light yellowish brown, or light gray loam, silty clay loam, or sandy clay loam that has brownish yellow, brown, dark brown, or yellowish brown mottles. Between the depth of 59 and 72 inches, it is mottled light brownish gray, dark yellowish brown, yellowish brown, and light gray silt loam.

Included with this soil in mapping are a few small areas of Riverview, Enoree, and Toccoa soils. The included soils make up about 8 percent of the unit.

The surface layer of this Chewacla soil is medium in content of organic matter. It is neutral to strongly acid throughout the profile. Permeability is moderate, and available water capacity is high. This soil can be cultivated only within a moderate range of moisture conditions. The root zone is deep and is easily penetrated by roots. This soil has an apparent seasonal high water table at a depth of 0.5 foot to 1.5 feet from November to April.

This soil has good suitability for most row crops, small grain, hay, and pasture. It has poor suitability for peaches. Suitability is limited because of wetness and flooding.

Suitability is good for loblolly pine, sweetgum, yellow-poplar, cottonwood, green ash, and southern red oak. The use of equipment is restricted for short periods during wet seasons.

This soil has good suitability for woodland wildlife habitat (fig. 3), very poor suitability for wetland wildlife habitat, and fair suitability for openland wildlife habitat.

This soil has poor suitability for urban uses. Wetness and flooding are severe limitations that are very difficult to overcome. Because of wetness and flooding, this soil has poor suitability for most recreation uses.

The capability subclass is IIIw, and the woodland ordination symbol is 1w.

DaB2—Davidson sandy clay loam, 2 to 6 percent slopes, eroded. This deep, well drained, gently sloping soil is on broad and medium ridges of the Piedmont Uplands. The surface layer is a mixture of topsoil and subsoil. Slopes are smooth and convex. Areas are 4 to about 150 acres.

Typically, the surface layer is dusky red sandy clay loam about 5 inches thick. The subsoil extends to a depth of 70 inches or more. It is dusky red clay between the depth of 5 and 18 inches and dark red clay between the depth of 18 and 70 inches.

Included with this soil in mapping are a few small areas of Cecil, Hiwassee, and Mecklenburg soils. Also included are a few small areas that have slopes of more than 6 percent. The included soils make up about 10 to 20 percent of this unit.

Figure 3.—Chewacla loam has good suitability for woodland and woodland wildlife habitat.

This Davidson soil is low in content of organic matter. It is medium acid to strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, hay, pasture, and peaches. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and most hardwoods. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but this limitation can be overcome by increasing the size of the absorption area. This soil has good suitability for recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 3c.

DaC2—Davidson sandy clay loam, 6 to 10 percent slopes, eroded. This deep, well drained, sloping soil is on ridges and side slopes adjacent to small and medium streams and at the heads of drainageways of the Piedmont Uplands. The surface layer is a mixture of topsoil and subsoil. Slopes are smooth and convex. Areas are 4 to about 80 acres.

Typically, the surface layer is dusky red sandy clay loam about 5 inches thick. The subsoil extends to a depth of 70 inches or more. It is dusky red clay between the depth of 5 to 18 inches and dark red clay between the depth of 18 and 70 inches.

Included with this soil in mapping are a few small areas of Cecil, Hiwassee, and Mecklenburg soils. Also included are a few small areas that have slopes of less than 6 percent or of more than 10 percent. The included soils make up about 15 percent of the unit.

This Davidson soil is low in content of organic matter. It is medium acid to strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. The soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for row crops, small grain, peaches, hay, and pasture. Suitability is limited because of slope. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and most hardwoods. There are no significant limitations for woodland use or management.

This soil has good suitability for openland wildlife habitat, fair suitability for woodland wildlife habitat, and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. Slope is a limitation, but cutting and filling can overcome this limitation. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but this limitation can be overcome by increasing the size of the absorption area. Because of slope, this soil has fair suitability for most recreation uses.

The capability subclass is IVe, and the woodland ordination symbol is 3c.

DuB—Durham loamy sand, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad, irregularly shaped ridges of the Piedmont Uplands. Slopes are smooth and convex. Areas are 5 to about 100 acres.

Typically, the surface layer is brown loamy sand about 5 inches thick. The subsurface layer is 10 inches thick. It is pale brown loamy sand between the depth of 5 and 9 inches and strong brown sandy loam between the depth of 9 to 15 inches. The subsoil extends to a depth of 49 inches. It is yellowish red and strong brown sandy clay loam between the depth of 15 and 27 inches and yellowish brown sandy clay loam that has strong brown mottles between the depth of 27 and 41 inches. It is brownish yellow sandy clay loam that has yellowish red and yellow mottles between the depth of 41 and 49 inches. The substratum, to a depth of 60 inches or more, is brownish yellow loamy sand that has reddish yellow, very dark brown, and pink mottles.

Included with this soil in mapping are small areas of granite bedrock outcrop. These areas are identified on the detailed soil maps with a rock outcrop symbol. Also included are small areas that have bedrock at a depth of less than 50 inches; areas that have boulders on the surface; small areas of Appling, Cataula, Cecil, Helena, and Wateree soils; and small areas of somewhat poorly drained soils in concave areas along narrow drainageways. A few small areas of included soils have slopes of more than 6 percent, and in a few small areas, the surface layer has been removed by man. The included soils make up about 40 percent of this unit.

This Durham soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for hay, pasture, row crops, and small grain. It has fair suitability for peaches. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. It has good suitability for septic tank absorption fields. The soil has good suitability for most recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 3o.

EN—Enoree soils. These soils consist of deep, nearly level, poorly drained soils on flood plains. Areas are about 45 percent Enoree soils and about 40 percent closely similar soils. There is no regular pattern of occurrence, and there is not enough difference in use and management to warrant separation. These soils flood frequently for brief periods throughout the year, and they have an apparent seasonal high water table between the months of November and April. Areas are 10 to about 200 acres.

Typically, Enoree soils have a surface layer of brown sandy loam about 4 inches thick. The underlying material, to a depth of 65 inches, is mottled grayish brown, yellowish brown, and pale brown sandy loam between the depth of 4 and 13 inches and grayish brown sandy loam that has strong brown mottles between the depth of 13 and 35 inches. It is gray loamy sand that has very pale brown mottles between the depth of 35 and 50 inches and very dark gray sandy loam between the depth of 50 and 65 inches.

Included with these soils in mapping are a few areas of Toccoa soil and Chewacla soil. The included soils make up about 15 percent of the unit.

The surface layer of these Enoree soils is medium in content of organic matter. Reaction is medium acid to strongly acid throughout the profile. Permeability is moderately rapid and available water capacity is medium to low. These soils can be worked only through a narrow range of moisture conditions. The root zone is deep and is easily penetrated by roots. An apparent seasonal high water table is at a depth of 1.0 foot from November to April.

Most of the acreage of these soils is used for woodland, although some areas are used for pasture. Suitability is poor for row crops, small grain, hay, and peaches and fair for pasture. Flooding and wetness are severe hazards that are difficult to overcome.

Suitability is good for sweetgum, yellow-poplar, cottonwood, and green ash. The use of equipment is restricted for long periods during wet seasons.

These soils have fair suitability for openland, wetland, and woodland wildlife habitat.

These soils have poor suitability for urban uses and for most recreation uses. Flooding and wetness are severe hazards that are difficult to overcome.

The capability subclass is Vw, and the woodland ordination symbol is 2w.

EuA—Eustis loamy sand, 0 to 2 percent slopes. This deep, somewhat excessively drained, nearly level soil is on broad ridgetops of the Coastal Plain. Areas are 10 to about 100 acres.

Typically, the surface layer is dark reddish brown loamy sand about 9 inches thick. The subsoil extends to a depth of 74 inches or more. It is red loamy sand between the depth of 9 and 56 inches and yellowish red loamy sand between the depth of 56 and 74 inches.

Included with this soil in mapping are a few small areas of Troup, Wagram, Lakeland, Norfolk, and

Orangeburg soils. Also included are a few small areas that have slopes of more than 2 percent. The included soils make up about 7 percent of the unit.

This Eustis soil is low in content of organic matter. It is strongly acid to very strongly acid throughout the profile except for the surface layer and upper part of the subsoil in limed areas. Permeability is rapid, and available water capacity is low. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for row crops, peaches, and small grain and good suitability for hay and pasture.

Suitability is good for loblolly pine and slash pine.

This soil has fair suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses and fair suitability for most recreation uses.

The capability subclass is IIIs, and the woodland ordination symbol is 3s.

FaA—Faceville sandy loam, 0 to 2 percent slopes. This deep, well drained, nearly level soil is on broad upland areas of the Coastal Plain. Areas are 4 to about 200 acres.

Typically, the surface layer is brown sandy loam about 6 inches thick. The subsoil extends to a depth of 70 inches or more. It is yellowish red sandy clay between the depth of 6 and 31 inches and red clay and sandy clay between the depth of 31 and 70 inches.

Included with this soil in mapping are a few small areas that have slopes of more than 2 percent. Also included are a few small areas of Norfolk, Wagram, Rembert, Orangeburg, and Marlboro soils. The included soils make up about 10 percent of this unit.

This Faceville soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, hay, pasture, and peaches.

Suitability is good for loblolly pine and slash pine. There are no significant limitations for woodland use or management.

Figure 4.—Peach orchard and cover strips on Faceville sandy loam, 2 to 6 percent slopes.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses and for recreation uses.

The capability class is I, and the woodland ordination symbol is 3o.

FaB—Faceville sandy loam, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad ridgetops and side slopes of the Coastal Plain. Slopes are smooth and convex. Areas are 4 to about 200 acres.

Typically, the surface layer is brown sandy loam about 6 inches thick. The subsoil extends to a depth of 70 inches or more. It is yellowish red sandy clay between the depth of 6 and 31 inches and red clay and sandy clay between the depth of 31 and 70 inches.

Included with this soil in mapping are a few small areas that have slopes of less than 2 percent and a few small areas that have slopes of more than 6 percent. Also included are a few small areas of Norfolk, Wagram, Orangeburg, and Marlboro soils. The included soils make up about 10 percent of this unit.

This Faceville soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, hay, pasture, and peaches. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion (fig. 4).

Suitability is good for loblolly pine and slash pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses and fair suitability for recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 3o.

FaC—Faceville sandy loam, 6 to 10 percent slopes. This deep, well drained, sloping soil is on narrow ridges and side slopes adjacent to drainageways. Slopes are smooth and convex. Areas are 5 to about 40 acres.

Typically, the surface layer is brown sandy loam about 6 inches thick. The subsoil extends to a depth of 70 inches or more. It is yellowish red sandy clay between the depth of 6 and 31 inches and red clay and sandy clay between the depth of 31 and 70 inches.

Included with this soil in mapping are a few small areas that have slopes of less than 6 percent and a few small areas that have slopes of more than 10 percent. Also included are a few small areas of Norfolk, Wagram, Orangeburg, and Marlboro soils, and a few small eroded areas that have a surface layer of clay loam or sandy clay loam. The included soils make up about 7 percent of this unit.

This Faceville soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for row crops and small grain. It has good suitability for hay, pasture, and peaches. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and slash pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Slope is a limitation which can be overcome by cutting and filling to reduce the slope. The soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 3o.

GeB—Georgeville silt loam, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad ridgetops and side slopes. Slopes are smooth and convex. Areas are 5 to about 200 acres.

Typically, the surface layer is brown silt loam about 6 inches thick. The subsoil extends to a depth of 53 inches. It is red clay between the depth of 6 and 28 inches and red clay that has reddish yellow mottles between the depth of 28 and 42 inches. It is red silty clay loam that has reddish yellow and white mottles between the depth of 42 and 53 inches. The substratum, to a depth of 72 inches or more, is light red silt loam that has reddish yellow mottles.

Included with this soil in mapping are a few small areas that have slopes of less than 2 percent and a few small areas that have slopes of more than 6 percent. Also included are a few small areas of Cecil, Winnsboro, Goldston, Herndon, Kirksey, Nason, and Gundy soils and a few small eroded areas that have a surface layer of silty clay loam or clay loam. The included soils make up about 7 percent of this unit.

This Georgeville soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be worked throughout a fairly wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for most row crops, small grain, and pasture and fair suitability for hay and peaches. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine (fig. 5). There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. The soil has good suitability for most recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 3o.

GeC—Georgeville silt loam, 6 to 10 percent slopes. This deep, well drained, sloping soil is on narrow ridges and side slopes adjacent to drainageways. Slopes are smooth and convex. Areas are 5 to about 100 acres.

Typically, the surface layer is brown silt loam about 6 inches thick. The subsoil extends to a depth of 53 inches. It is red clay between the depth of 6 and 28 inches and red clay that has reddish yellow mottles between the depth of 28 and 42 inches. It is red silty clay loam that has reddish yellow and white mottles between the depth of 42 and 53 inches. The substratum,

Figure 5.—Stand of loblolly pine on Georgeville silt loam, 2 to 6 percent slopes.

to a depth of 72 inches or more, is light red silt loam that has reddish yellow mottles.

Included with this soil in mapping are a few small areas that have slopes of less than 6 percent and a few small areas that have slopes of more than 10 percent. Also included are a few small areas of Cecil, Winnsboro, Goldston, Herndon, Kirksey, Nason, and Gundy soils and a few small areas that have a surface layer of silty clay loam or clay loam. The included soils make up about 7 percent of this unit.

This Georgeville soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be worked throughout a fairly wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for row crops, peaches, and hay. It has good suitability for small grain and pasture. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Slope is a limitation, but cutting and filling can reduce the slope. Moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. The soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 3o.

GgB2—Georgeville silty clay loam, 2 to 6 percent slopes, eroded. This deep, well drained, gently sloping soil is on ridges and slopes adjacent to drainageways. The surface layer is a mixture of topsoil and subsoil. Slopes are smooth and convex. Areas are 5 to about 30 acres.

Typically, the surface layer is yellowish red or red silty clay loam about 4 inches thick. The subsoil extends to a depth of 51 inches. It is red clay between the depth of 4 and 26 inches and red clay that has reddish yellow mottles between the depth of 26 and 40 inches. It is red clay loam that has reddish yellow and white mottles between the depth of 40 and 51 inches. The substratum, to a depth of 72 inches or more, is light red silt loam that has reddish yellow mottles.

Included with this soil in mapping are a few small areas that have slopes of less than 2 percent and a few small areas that have slopes of more than 6 percent. Also included are a few small areas of Cecil, Winnsboro, Goldston, Herndon, Kirksey, Nason, and Gundy soils. The included soils make up about 7 percent of this unit.

This Georgeville soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be worked only within a narrow range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for most row crops, small grain, hay, pasture, and peaches. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. The thin surface layer is a limitation that is difficult to overcome.

This soil has fair suitability for openland wildlife habitat, good suitability for woodland wildlife habitat, and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. The soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 4c.

GoC—Goldston slaty silt loam, 6 to 10 percent slopes. This moderately deep, well drained, sloping soil is on narrow ridges and in areas adjacent to drainageways. Slopes are smooth and convex. Areas are 5 to about 40 acres.

Typically, the surface layer is brown slaty silt loam about 4 inches thick. The subsoil, to a depth of 15 inches, is yellowish brown very slaty silt loam that is 40 percent fragments of slate. The substratum, to a depth of 40 inches or more, is strong brown very slaty silt loam that is 75 percent fragments of slate between the depth of 15 and 36 inches and highly weathered slate rock material that crushes to silt loam between the depth of 36 and 40 inches. The fragments of slate have yellowish red stains on the surface.

Included with this soil in mapping are a few small areas that have slopes of less than 6 percent and a few small areas that have slopes of more than 10 percent. Also included are a few small areas of Winnsboro, Georgeville, Herndon, Kirksey, Nason, and Gundy soils. The included soils make up about 12 percent of this unit.

This Goldston soil is low in content of organic matter. It is medium acid to extremely acid throughout the profile except for the surface layer in limed areas. Permeability is moderately rapid, and available water capacity is low. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is moderately deep to highly weathered rock material.

This soil has poor suitability for most row crops, small grain, peaches, and hay and fair suitability for pasture. Suitability is limited because of the low available water capacity, the moderately deep root zone, and the large number of slate fragments. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine and longleaf pine. There are no significant limitations for woodland use or management.

This soil has poor suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. The shallow depth to highly weathered rock material is a severe limitation, but this limitation can be overcome by ripping or blasting or by using structural designs which do not penetrate the rock material. The depth to highly weathered rock material is a severe limitation for septic tank absorption fields, but this limitation can be modified by increasing the size of the absorption area. The soil has fair suitability for recreation uses.

The capability subclass is IVs, and the woodland ordination symbol is 4o.

GoD—Goldston slaty silt loam, 10 to 15 percent slopes. This moderately deep, well drained, strongly sloping soil is on slopes adjacent to medium and large streams and at the heads of drainageways. Slopes are smooth and convex. Areas are 5 to about 40 acres.

Typically, the surface layer is brown slaty silt loam about 4 inches thick. The subsoil, to a depth of 15 inches, is yellowish brown slaty silt loam that is 40 percent fragments of slate. The substratum, to a depth of 40 inches or more, is strong brown very slaty silt loam that is 75 percent fragments of slate between the depth of 15 and 36 inches and highly weathered slate rock material that crushes to silt loam between the depth of 36 and 40 inches. The fragments of slate have yellowish red stains on the surface.

Included with this soil in mapping are a few small areas that have slopes of less than 10 percent and a few small areas that have slopes of more than 15 percent. Also included are a few small areas of Winnsboro, Georgeville, Herndon, Nason, and Gundy soils. The included soils make up about 7 percent of this unit.

This Goldston soil is low in content of organic matter. It is medium acid to extremely acid throughout the profile except for the surface layer in limed areas. Permeability is moderately rapid, and available water capacity is low. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is moderately deep to highly weathered rock material.

This soil has poor suitability for row crops, small grain, peaches, and hay and fair suitability for pasture. Suitability is limited because of slope and the moderately deep root zone. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly and longleaf pine. There are no significant limitations for woodland use or management.

This soil has poor suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. The slope and shallow depth to highly weathered rock material are limitations. Slope can be reduced by cutting and filling, and depth to the rock material can be overcome by ripping or blasting or by using structural designs that do not penetrate the rock material. The depth to the highly weathered rock material is a severe limitation for septic tank absorption fields, but this limitation can be modified by increasing the size of the absorption area. The soil has fair suitability for recreation uses.

The capability subclass is VIs, and the woodland ordination symbol is 4o.

GoF—Goldston slaty silt loam, 15 to 40 percent slopes. This moderately deep, well drained, moderately steep to steep soil is on short slopes adjacent to medium and large streams. Slopes are smooth and convex. Areas are 5 to about 80 acres.

Typically, the surface layer is brown slaty silt loam about 4 inches thick. The subsoil, to a depth of 15 inches, is yellowish brown slaty silt loam that is 40 percent slate fragments. The substratum, to a depth of 40 inches or more, is strong brown very slaty silt loam that is 75 percent fragments of slate between the depth of 15 and 36 inches and highly weathered slate rock material that crushes to silt loam between the depth of 36 and 40 inches. The slate fragments have yellowish red stains on the surface.

Included with this soil in mapping are a few small areas that have slopes of less than 15 percent and a few small areas that have slopes of more than 40 percent. Also included are a few small areas of Nason soil and Gundy soil. The included soils make up about 7 percent of this unit.

This Goldston soil is low in content of organic matter. It is medium acid to extremely acid throughout the profile except for the surface layer in limed areas. Permeability is moderately rapid, and available water capacity is low. The soil can be cultivated throughout a wide range of moisture conditions. The root zone is moderately deep to highly weathered rock material.

This soil has poor suitability for row crops, small grain, peaches, hay, and pasture. Suitability is limited because of the moderately steep and steep slopes and the

moderately deep root zone. Erosion is a very severe hazard if cultivated crops are grown. Because of the very severe hazard of erosion, cultivation of this soil is not recommended. Use of the soil for trees is a suitable management practice.

Suitability is fair for loblolly pine and longleaf pine. The moderately steep slopes are a limitation. Restricted use of equipment and the hazard of erosion are concerns in woodland management.

This soil has poor suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

Because of the moderately steep and steep slopes and the shallow depth to highly weathered rock material, this soil has poor suitability for most urban uses. Steepness of slope can be reduced by cutting and filling, and shallow depth to highly weathered rock material can be overcome by ripping or blasting or by using structural designs which do not penetrate the rock material. The depth to highly weathered rock material is a severe limitation for septic tank absorption fields, but this limitation can be modified by increasing the size of the absorption area. The soil has poor suitability for recreation uses.

The capability subclass is VIIs, and the woodland ordination symbol is 4r.

GuD—Gundy silt loam, 10 to 15 percent slopes. This deep, well drained, strongly sloping soil is on slopes adjacent to medium and large streams and at the heads of drainageways. Slopes are smooth and convex. Areas are 4 to about 50 acres.

Typically, the surface layer is brown silt loam about 4 inches thick. The subsoil extends to a depth of 32 inches. It is red clay between the depth of 4 and 20 inches and red clay loam that has reddish yellow mottles between the depth of 20 and 32 inches. The substratum, to a depth of 60 inches or more, is yellowish red slaty clay loam that has brownish yellow mottles between the depth of 32 and 52 inches and pale olive, highly weathered slate rock material that crushes to slaty loam between the depth of 52 and 60 inches.

Included with this soil in mapping are a few small areas of Georgeville, Goldston, Herndon, Winnsboro, and Nason soils and a few small areas that have slopes of less than 10 percent or more than 15 percent. Also included, in places, are areas of eroded soils that have a surface layer of clay loam or silty clay loam. The included soils make up about 8 percent of the unit.

This Gundy soil is low in content of organic matter. It is slightly acid to strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has poor suitability for row crops, peaches, and small grain. It has fair suitability for hay and good suitability for pasture. Suitability is limited because of the strong slopes. Erosion is a very severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Strong slopes and shrink-swell potential are limitations. Cutting and filling can reduce the slope, and excavating and filling with more desirable material or reinforcing foundations can overcome the potential for shrink-swell. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. The soil has fair suitability for most recreation uses.

The capability subclass is IVe, and the woodland ordination symbol is 4o.

GuE—Gundy silt loam, 15 to 25 percent slopes. This deep, well drained, moderately steep soil is on short slopes adjacent to medium and large streams. Slopes are smooth and convex. Areas are 10 to about 70 acres.

Typically, the surface layer is brown silt loam about 4 inches thick. The subsoil extends to a depth of 32 inches. It is red clay between the depth of 4 and 20 inches and red clay loam that has reddish yellow mottles between the depth of 20 and 32 inches. The substratum, to a depth of 60 inches or more, is yellowish red slaty clay loam that has brownish yellow mottles between the depth of 32 and 52 inches and pale olive, highly weathered slate rock material that crushes to slaty loam between the depth of 52 and 60 inches.

Included with this soil in mapping are a few small areas of Georgeville, Goldston, Herndon, Winnsboro, and Nason soils and a few small areas that have slopes of less than 15 percent. Also included, in places, are areas of eroded soils that have a surface layer of clay loam or silty clay loam, and, in places, a few small to large gullies. The included soils make up about 10 percent of the unit.

This Gundy soil is low in content of organic matter. It is slightly acid to strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has poor suitability for row crops, small grain, peaches, and hay and fair suitability for pasture. Suitability is limited because of the moderately steep slopes. Erosion is a very severe hazard if cultivated

crops are grown. Because of the very severe hazard of erosion, cultivation of this soil is not recommended. Use of the soil for trees is a suitable management practice.

Suitability is good for loblolly pine. The moderately steep slopes are a limitation. Restricted use of equipment and the hazard of erosion are concerns in woodland management.

This soil has fair suitability for openland wildlife habitat, good suitability for woodland wildlife habitat, and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for urban uses. The moderately steep slope is a limitation that is difficult to overcome; however, cutting and filling can reduce the slope. Slope steepness is a severe limitation for septic tank absorption fields. Proper layout of the filter field can modify this limitation, but proper functioning of the filter field is difficult to achieve. The soil has poor suitability for recreation uses.

The capability subclass is VIe, and the woodland ordination symbol is 4r.

HeB—Helena sandy loam, 2 to 6 percent slopes. This deep, moderately well drained, gently sloping soil is on irregularly shaped saddles between drainageways, on slopes adjacent to shallow drainageways, and at the heads of drainageways. Slopes are smooth and generally convex. Areas are 5 to about 60 acres.

Typically, the surface layer is very dark grayish brown sandy loam about 3 inches thick. The subsurface layer is light yellowish brown sandy loam 10 inches thick. The subsoil extends to a depth of 46 inches. It is yellow clay between the depth of 13 and 22 inches and yellow clay that has light gray and red mottles between the depth of 22 and 33 inches. It is mottled yellow, white, red, and light gray clay loam between the depth of 33 and 46 inches. The substratum is mottled brownish yellow, white, red, and light gray sandy clay loam to a depth of 61 inches or more.

Included with this soil in mapping are small areas of somewhat poorly drained soils in concave areas and along narrow drainageways and, in a few places, small areas that have slopes of more than 6 percent. Also included are a few small areas of Appling, Cataula, Cecil, Mecklenburg, and Winnsboro soils. The included soils make up about 7 percent of this unit.

This Helena soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is slow, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots. The soil has high shrink-swell potential. It has a perched seasonal high water table at a depth of 1.0 foot to 2.5 feet from January to March.

This soil has fair suitability for most row crops and hay. It has good suitability for pasture and poor suitability for peaches. Suitability is limited because of wetness. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and yellow-poplar. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for most urban uses. Wetness is a severe limitation for homesites. The high shrink-swell potential is a severe limitation, but excavating and filling with more desirable material can overcome this limitation. The slow permeability of the clayey subsoil and wetness are severe limitations for septic tank absorption fields, but increasing the size of the absorption area helps to improve the absorption, and installing a drainage system helps to overcome the wetness. The soil has fair suitability for wetland wildlife habitat.

The capability subclass is IIe, and the woodland ordination symbol is 3w.

HeC—Helena sandy loam, 6 to 10 percent slopes. This deep, moderately well drained, sloping soil is on irregularly shaped saddles between drainageways, on slopes adjacent to shallow drainageways, and at the heads of drainageways. Slopes are smooth and generally convex. Areas are 5 to about 40 acres.

Typically, the surface layer is very dark grayish brown sandy loam about 3 inches thick. The subsurface layer is light yellowish brown sandy loam 10 inches thick. The subsoil extends to a depth of 46 inches. It is yellow clay between the depth of 13 and 22 inches and yellow clay that has light gray and red mottles between the depth of 22 and 33 inches. It is mottled yellow, white, red, and light gray clay loam between the depth of 33 and 46 inches. The substratum is mottled brownish yellow, white, red, and light gray sandy clay loam to a depth of 61 inches or more.

Included with this soil in mapping are small areas of somewhat poorly drained soils in concave areas and along narrow drainageways and, in a few places, small areas that have slopes of less than 6 percent or more than 10 percent. Also included are a few small areas of Appling, Cataula, Cecil, Mecklenburg, and Winnsboro soils. The included soils make up about 10 percent of this unit.

This Helena soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is slow, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots. This soil has a high rate of

shrink-swell. It has a perched seasonal high water table at a depth of 1.0 foot to 2.5 feet from January to March.

This soil has fair suitability for most row crops and hay. It has good suitability for pasture and poor suitability for peaches. Suitability is limited because of wetness and slope. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, contour farming, stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and yellow-poplar. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for most urban uses. Wetness is a severe limitation for homesites. The high shrink-swell potential is a severe limitation but excavating and filling with more desirable material can overcome this limitation. The slow permeability of the clayey subsoil and wetness are severe limitations for septic tank absorption fields. Increasing the size of the absorption area helps to improve the function of the system, and installing drainage ditches helps to overcome the wetness. The soil has fair suitability for recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 3w.

HrB—Herndon very fine sandy loam, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad ridges and gentle slopes adjacent to drainageways. Slopes are smooth and convex. Areas are 4 to about 100 acres.

Typically, the surface layer is brown very fine sandy loam about 6 inches thick. The subsoil extends to a depth of 55 inches. It is yellowish red clay between the depth of 6 and 20 inches and yellowish brown clay loam that has yellow and red mottles between the depth of 20 and 35 inches. It is mottled yellow, light red, yellowish brown, and very pale brown clay loam between the depth of 35 and 55 inches. The substratum is yellow loam that has reddish yellow, very pale brown, and strong brown mottles to a depth of 70 inches or more.

Included with this soil in mapping are a few small areas that have slopes of more than 6 percent and, in places, areas of eroded soil that have a surface layer of silty clay loam or clay loam. Also included are a few small areas of Winnsboro, Georgeville, Goldston, Kirksey, Nason, Gundy, and Mecklenburg soils. The included soils make up about 8 percent of this unit.

This Herndon soil is low in content of organic matter. It is strongly acid to extremely acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. The soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, and pasture and fair suitability for hay and peaches. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and yellow-poplar. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. This soil has good suitability for most recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 3o.

HrC—Herndon very fine sandy loam, 6 to 10 percent slopes. This deep, well drained, sloping soil is on narrow ridges and sloping areas adjacent to drainageways. Slopes are smooth and convex. Areas are 4 to about 80 acres.

Typically, the surface layer is brown very fine sandy loam about 6 inches thick. The subsoil extends to a depth of 55 inches. It is yellowish red clay between the depth of 6 and 20 inches and yellowish brown clay loam that has yellow and red mottles between the depth of 20 and 35 inches. It is mottled yellow, light red, yellowish brown, and very pale brown clay loam between the depth of 35 and 55 inches. The substratum is yellow loam that has reddish yellow, very pale brown, and strong brown mottles to a depth of 70 inches or more.

Included with this soil in mapping are a few small areas that have slopes of less than 6 percent and a few small areas that have slopes of more than 10 percent. Also included, in places, are areas of eroded soil that have a surface layer of silty clay loam or clay loam and a few small areas of Winnsboro, Georgeville, Goldston, Kirksey, Nason, Gundy, and Mecklenburg soils. The included soils make up about 10 percent of this unit.

This Herndon soil is low in content of organic matter. It is strongly acid to extremely acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for most row crops, hay, and peaches and good suitability for pasture and small grain. Erosion is a severe hazard if cultivated crops are

grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and yellow-poplar. There are no significant limitations for woodland use or management.

This soil has fair suitability for openland wildlife habitat, good suitability for woodland wildlife habitat, and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Slope is a limitation, but cutting and filling can reduce the slope. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. This soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 3o.

HwB—Hiwassee sandy loam, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad and medium ridges of the Piedmont Uplands. Slopes are smooth and convex. Areas are 4 to about 90 acres.

Typically, the surface layer is dark reddish brown sandy loam about 5 inches thick. The subsoil extends to a depth of 70 inches or more. It is dark red clay between the depth of 5 and 43 inches and red clay between the depth of 43 and 52 inches. It is red clay loam that has reddish yellow and dark red mottles between the depth of 52 and 64 inches and red clay loam that has reddish yellow, dark red, and white mottles between the depth of 64 and 70 inches.

Included with this soil in mapping are a few small areas of Cataula, Cecil, Davidson, and Mecklenburg soils. Also included are a few small areas that have slopes of more than 6 percent and small eroded areas that have a surface layer of sandy clay loam or clay loam. The included soils make up about 10 percent of this unit.

This Hiwassee soil is low in content of organic matter. It is slightly acid to very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, and peaches and fair suitability for hay. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. Moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. This soil has good suitability for most recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 3o.

HwC—Hiwassee sandy loam, 6 to 10 percent slopes. This deep, well drained, sloping soil is on narrow ridges and side slopes adjacent to small and medium streams and at the heads of drainageways of the Piedmont Uplands. Slopes are smooth and convex. Areas are 4 to about 50 acres.

Typically, the surface layer is dark reddish brown sandy loam about 5 inches thick. The subsoil extends to a depth of 70 inches or more. It is dark red clay between the depth of 5 and 43 inches and red clay between the depth of 43 and 52 inches. It is red clay loam that has reddish yellow and dark red mottles between the depth of 52 and 64 inches and red clay loam that has reddish yellow, dark red, and white mottles between the depth of 64 and 70 inches.

Included with this soil in mapping are a few small areas of Cataula, Cecil, Davidson, and Mecklenburg soils. Also included are a few small areas that have slopes of less than 6 percent or more than 10 percent and small eroded areas that have a surface layer of sandy clay loam or clay loam. The included soils make up about 8 percent of the unit.

This Hiwassee soil is low in content of organic matter. It is slightly acid to very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for most row crops and hay and good suitability for peaches, pasture, and small grain. Suitability is limited because of the slope. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Slope is a limitation, but cutting and filling can reduce the slope. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the

function of the system can be improved by increasing the size of the absorption area. The soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 3o.

HwD—Hiwassee sandy loam, 10 to 15 percent slopes. This deep, well drained, strongly sloping soil is on slopes adjacent to medium and large streams. Slopes are short, smooth, and convex. Areas are 4 to about 30 acres.

Typically, the surface layer is dark reddish brown sandy loam about 5 inches thick. The subsoil extends to a depth of 70 inches or more. It is dark red clay between the depth of 5 and 43 inches and red clay between the depth of 43 and 52 inches. It is red clay loam that has reddish yellow and dark red mottles between the depth of 52 and 64 inches and red clay loam that has reddish yellow, dark red, and white mottles between the depth of 64 and 70 inches.

Included with this soil in mapping are a few small areas of Cecil, Mecklenburg, and Pacolet soils. Also included are a few small areas that have slopes of less than 10 percent or more than 15 percent and small eroded areas that have a surface layer of sandy clay loam or clay loam. The included soils make up about 10 percent of the unit.

This Hiwassee soil is low in content of organic matter. It is slightly acid to very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for row crops, hay, peaches, and pasture and good suitability for small grain. Suitability is limited because of strong slopes. Erosion is a very severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Slope is a limitation, but cutting and filling can reduce the slope. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. The soil has fair suitability for most recreation uses.

The capability subclass is IVe, and the woodland ordination symbol is 3o.

HyB2—Hiwassee sandy clay loam, 2 to 6 percent slopes, eroded. This deep, well drained, gently sloping soil is on narrow ridges and gentle slopes adjacent to drainageways. Erosion has removed 25 to 75 percent of the original surface layer. Rills are common. Slopes are smooth and convex. Areas are 4 to about 30 acres.

Typically, the surface layer is dusky red sandy clay loam about 4 inches thick. The subsoil extends to a depth of 70 inches or more. It is dark red clay between the depth of 4 and 42 inches and red clay between the depth of 42 and 51 inches. It is red clay loam that has reddish yellow and dark red mottles between the depth of 51 and 63 inches and red clay loam that has reddish yellow, dark red, pale brown, and white mottles between the depth of 63 and 70 inches.

Included with this soil in mapping are a few small areas of Cataula, Cecil, Mecklenburg, and Davidson soils. Also included are a few small areas that have slopes of more than 6 percent and, in a few places, small areas of shallow to deep gullies. The included soils make up about 10 percent of the unit.

This Hiwassee soil is low in content of organic matter. It is slightly acid to very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be worked within only a narrow range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for most row crops, peaches, hay, and pasture and good suitability for small grain. Suitability is limited because of the thin eroded surface layer and slope. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. The sandy clay loam surface layer increases the hazard of erosion, and it is a moderate limitation for the use of equipment and the growth of seedlings.

This soil has fair suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. This soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 4c.

KrB—Kirksey silt loam, 2 to 6 percent slopes. This deep, moderately well drained, gently sloping soil is on broad ridges and gentle slopes adjacent to drainageways. Slopes are smooth and convex. Areas are 4 to about 400 acres.

Typically, the surface layer is brown silt loam about 6 inches thick. The subsoil extends to a depth of 36

inches. It is pale brown silt loam between the depth of 6 and 13 inches and brownish yellow silt loam that has very pale brown mottles between the depth of 13 and 24 inches. It is yellowish brown and brownish yellow silty clay loam that has reddish yellow and gray mottles between the depth of 24 and 36 inches. The substratum, to a depth of 50 inches, is yellow silt loam that has white and gray mottles between the depth of 36 and 42 inches and saprolite that crushes to silt loam between the depth of 42 and 50 inches. Rippable Carolina Slate bedrock is at a depth of 50 inches.

Included with this soil in mapping are a few small areas that have slopes of more than 6 percent. Also included are a few small areas of Winnsboro, Georgeville, Herndon, Mecklenburg, Nason, and Gundy soils. The included soils make up about 10 percent of this unit.

This Kirksey soil is low in content of organic matter. It is strongly acid to extremely acid throughout the profile except for the surface layer in limed areas. Permeability is moderately slow, and available water capacity is medium. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots. This soil has a perched seasonal high water table at a depth of 1.5 to 3.0 feet from December to March.

This soil has fair suitability for row crops and hay. It has good suitability for pasture and poor suitability for peaches. Suitability is limited by wetness. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Wetness is a limitation for homesites. The moderately slow permeability and wetness are limitations for septic tank absorption fields. However, the function of the system can be improved by increasing the size of the absorption area, and wetness can be controlled by installing a drainage system. The soil has fair suitability for recreation uses. Wetness is a limitation.

The capability subclass is IIe, and the woodland ordination symbol is 4w.

LaB—Lakeland sand, 0 to 6 percent slopes. This deep, excessively drained, nearly level to gently sloping soil is on broad ridges of the Coastal Plain. Areas are 4 to about 500 acres.

Typically, the surface layer is brown sand about 8 inches thick. The underlying material, to a depth of 82 inches, is yellowish brown or strong brown sand between the depth of 8 and 55 inches and brownish yellow sand that has uncoated white sand grains between the depth of 55 and 82 inches.

Included with this soil in mapping are a few small areas that have slopes of more than 6 percent. Also included are a few small areas of Norfolk, Faceville, Wagram, Orangeburg, Troup, and Marlboro soils. The included soils make up about 10 percent of this unit.

This Lakeland soil is low in content of organic matter. It is medium acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is very rapid, and available water capacity is low. This soil can be worked throughout a very wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has poor suitability for most row crops, small grain, and peaches. It has fair suitability for hay and good suitability for pasture. Suitability is limited because of droughtiness and the rapid removal by leaching of limestone and fertilizer. Applications of fertilizer and lime are needed on this soil more frequently than is typical during the growing season.

Suitability is fair for loblolly pine and slash pine. Moderate seedling mortality and moderate limitation to use of equipment are woodland management concerns.

This soil has fair suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses; however, if this soil is used for septic tank absorption fields, contamination of ground water is a hazard. The soil has poor suitability for recreation uses.

The capability subclass is IVs, and the woodland ordination symbol is 4s.

LaC—Lakeland sand, 6 to 10 percent slopes. This deep, excessively drained, sloping soil is on ridges and side slopes adjacent to small and medium streams and at the heads of drainageways of the Coastal Plain. Slopes are smooth and convex. Areas are 4 to about 100 acres.

Typically, the surface layer is brown sand about 8 inches thick. The underlying material, to a depth of 82 inches, is yellowish brown or strong brown sand between the depth of 8 and 55 inches and brownish yellow sand that has uncoated white sand grains between the depth of 55 and 82 inches.

Included with this soil in mapping are a few small areas that have slopes of less than 6 percent or more than 10 percent. Also included are a few small areas of Norfolk, Wagram, Orangeburg, and Troup soils. The included soils make up about 10 percent of this unit.

This Lakeland soil is low in content of organic matter. It is medium acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is very rapid, and available water capacity is low. This soil can be worked throughout a very wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has poor suitability for most row crops, small grain, and peaches. It has fair suitability for hay and good suitability for pasture. Suitability is limited because of droughtiness and the rapid removal by leaching of limestone and fertilizer. Applications of fertilizer and lime are needed on this soil more frequently than is typical during the growing season.

Suitability is fair for loblolly pine and slash pine. Moderate seedling mortality and moderate limitation to use of equipment are woodland management concerns.

This soil has fair suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. Slope is a limitation, but cutting and filling can reduce the slope. If this soil is used for septic tank absorption fields, contamination of ground water is a hazard. The soil has poor suitability for recreation uses.

The capability subclass is VIs, and the woodland ordination symbol is 4s.

LaE—Lakeland sand, 10 to 25 percent slopes. This deep, excessively drained, strongly sloping to moderately steep soil is on short slopes adjacent to medium and large streams of the Coastal Plain. Slopes are smooth and convex. Areas are 4 to about 50 acres.

Typically, the surface layer is brown sand about 8 inches thick. The underlying material, to a depth of 82 inches, is yellowish brown or strong brown sand between the depth of 8 and 55 inches and brownish yellow sand that has uncoated white sand grains between the depth of 55 and 82 inches.

Included with this soil in mapping are a few small areas that have slopes of less than 10 percent or more than 25 percent. Also included are a few small areas of Wagram and Troup soils. The included soils make up about 15 percent of this unit.

This Lakeland soil is low in content of organic matter. It is medium acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is very rapid, and available water capacity is low. This soil can be worked throughout a very wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has poor suitability for row crops, small grain, hay, and peaches. It has fair suitability for pasture. Suitability is limited because of slope, droughtiness, and the rapid removal by leaching of limestone and fertilizer. Because of the removal by leaching, applications of lime and fertilizer are needed throughout the growing season.

Suitability is fair for loblolly pine and slash pine. A moderate limitation to use of equipment and moderate seedling mortality are management concerns.

The soil has fair suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for most urban uses because of the strongly sloping and moderately steep slopes. However, cutting and filling can reduce the slope. If this soil is used for septic tank absorption fields, contamination of ground water is a hazard. The soil has poor suitability for recreation uses.

The capability subclass is VIIs, and the woodland ordination symbol is 4s.

LTE—Lakeland and Troup sands, 15 to 25 percent slopes. This map unit consists of deep, excessively drained to well drained soils. These moderately steep soils are on side slopes adjacent to small to large streams of the Coastal Plain. Slopes are smooth and convex.

A typical area of this map unit is about 35 percent Lakeland soils, 25 percent Troup and closely similar soils, and 40 percent other soils. These soils are in an irregular pattern. Areas of each soil are large enough to be mapped separately, but because of present and predicted use, they were mapped as one unit. Most mapped areas are made up of both soils, but a few areas are made up of only one soil. Areas are 5 to about 50 acres.

Typically, Lakeland soils have a surface layer of brown sand about 8 inches thick. The underlying material, to a depth of 82 inches, is yellowish brown or strong brown sand between the depth of 8 and 55 inches and brownish yellow sand that has uncoated white sand grains between the depth of 55 and 82 inches.

Lakeland soils are low in content of organic matter. They are medium acid to very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is very rapid, and available water capacity is low. These soils can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

Typically, Troup soils have a surface layer of grayish brown sand about 9 inches thick. The subsurface layer is light yellowish brown sand and uncoated white sand grains about 44 inches thick. The subsoil extends to a depth of 81 inches or more. It is yellowish brown sandy loam that has strong brown mottles between the depth of 53 and 61 inches and mottled strong brown, gray, and red sandy clay loam between the depth of 61 and 81 inches.

Troup soils are low in content of organic matter. They are strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is low. These soils can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This map unit has poor suitability for row crops, small grain, hay, and peaches. It has fair suitability for pasture. Slope, droughtiness, and the rapid removal by leaching of limestone and fertilizer are limitations to the use of these soils. Because of the rapid removal by leaching, applications of lime and fertilizer are needed throughout the growing season.

Suitability is fair for loblolly pine and slash pine. A moderate limitation to use of equipment and moderate seedling mortality are woodland management concerns.

This map unit has fair suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This map unit has poor suitability for most urban uses because of the moderately steep slope, but cutting and filling can reduce the slope. If these soils are used for septic tank absorption fields, contamination of ground water is a hazard. These soils have poor suitability for most recreation uses.

The capability subclass is VIIs. The woodland ordination symbol is 4s for Lakeland soils and 3s for Troup soils.

MbA—Marlboro sandy loam, 0 to 2 percent slopes. This deep, well drained, nearly level soil is on broad upland areas of the Coastal Plain. Areas are 4 to about 200 acres.

Typically, the surface layer is brown sandy loam about 8 inches thick. The subsoil extends to a depth of 72 inches or more. It is yellowish brown clay between the depth of 8 and 27 inches and yellowish brown clay that has red mottles between the depth of 27 and 48 inches. It is brownish yellow clay that has red and pale brown mottles between the depth of 48 and 65 inches and red clay that has strong brown and yellowish red mottles between the depth of 65 and 72 inches.

Included with this soil in mapping are a few small areas that have slopes of more than 2 percent. Also included are a few small areas of Norfolk, Faceville, Wagram, and Orangeburg soils. The included soils make up about 8 percent of this unit.

This Marlboro soil is low in content of organic matter. Unless limed, the soil is medium acid to strongly acid in the surface layer, slightly acid to strongly acid in the upper part of the subsoil, and medium acid to very strongly acid in the lower part of the subsoil. Permeability is moderate, and available water capacity is medium. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops (fig. 6), small grain, peaches, hay, and pasture. It has no special conservation problems.

Suitability is good for loblolly pine and slash pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. This soil has good suitability for recreation uses.

The capability class is I, and the woodland ordination symbol is 3o.

MbB—Marlboro sandy loam, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad ridges and slopes adjacent to small and medium streams of the Coastal Plain. Areas are 10 to about 150 acres.

Typically, the surface layer is brown sandy loam about 8 inches thick. The subsoil extends to a depth of 72 inches or more. It is yellowish brown clay between the depth of 8 and 27 inches and yellowish brown clay that has red mottles between the depth of 27 and 48 inches. It is brownish yellow clay that has red and pale brown mottles between the depth of 48 and 65 inches and red clay that has strong brown and yellowish red mottles between the depth of 65 and 72 inches.

Included with this soil in mapping are a few small areas of Norfolk, Faceville, Wagram, and Orangeburg soils. Also included are a few small areas that have slopes of less than 2 percent or more than 6 percent. The included soils make up about 8 percent of this unit.

This Marlboro soil is low in content of organic matter. Unless limed, the soil is medium acid to strongly acid in the surface layer, slightly acid to strongly acid in the upper part of the subsoil, and medium acid to very strongly acid in the lower part of the subsoil. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, peaches, hay, and pasture. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly and slash pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area. This soil has good suitability for recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 3o.

MeB—Mecklenburg sandy loam, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad and medium ridges of the Piedmont Uplands. Slopes are smooth and convex. Areas are 4 to about 30 acres.

Figure 6.—Long rows of cotton on Marlboro sandy loam, 0 to 2 percent slopes.

Typically, the surface layer is brown sandy loam about 3 inches thick. The subsurface layer is dark brown sandy loam 5 inches thick. The subsoil extends to a depth of 34 inches. It is yellowish red clay between the depth of 8 and 16 inches and yellowish red clay that has strong brown mottles between the depth of 16 and 23 inches. It is yellowish brown clay that has light brownish gray mottles between the depth of 23 and 30 inches and brownish yellow clay that has light brownish gray and strong brown mottles between the depth of 30 and 34 inches. The substratum, to a depth of 50 inches or more, is finely mottled brownish yellow, yellow, light brownish gray, and gray clay loam between the depth of 34 and 41 inches and highly weathered rock material that crushes to sandy loam between the depth of 41 and 50 inches. Fine grained schist bedrock is below a depth of 50 inches.

Included with this soil in mapping are a few small areas of Cataula, Cecil, Davidson, Winnsboro, Hiwassee, and Wilkes soils and small eroded areas that have a surface layer of loam or clay loam. Also included are small areas that have slopes of more than 6 percent. The included soils make up about 10 percent of the map unit.

This Mecklenburg soil is low in content of organic matter. It is medium acid to neutral throughout the profile. Permeability is slow, and available water capacity is medium. This soil can be worked within a medium range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, and pasture. It has fair suitability for hay and poor suitability for peaches. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine and yellow-poplar. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for urban uses. The shrink-swell potential is a severe limitation, but excavating and filling with more desirable material or reinforcing foundations can overcome this limitation. The slow permeability of the clayey subsoil is a severe limitation for septic tank absorption fields that is very difficult to improve, but increasing the size of the absorption area can modify this limitation. This soil has fair suitability for most recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 4o.

MeC—Mecklenburg sandy loam, 6 to 10 percent slopes. This deep, well drained, sloping soil is on ridges and side slopes adjacent to small and medium streams and at the heads of drainageways. Slopes are smooth and convex. Areas are 4 to 40 acres.

Typically, the surface layer is brown sandy loam about 3 inches thick. The subsurface layer is dark brown sandy loam 5 inches thick. The subsoil extends to a depth of 34 inches. It is yellowish red clay between the depth of 8 and 16 inches and yellowish red clay that has strong brown mottles between the depth of 16 and 23 inches. It is yellowish brown clay that has light brownish gray mottles between the depth of 23 and 30 inches and brownish yellow clay that has light brownish gray and strong brown mottles between the depth of 30 and 34 inches. The substratum, to a depth of 50 inches or more, is finely mottled brownish yellow, yellow, light brownish gray, and gray clay loam between the depth of 34 and 41 inches and highly weathered rock material that crushes to sandy loam between the depth of 41 and 50 inches. Fine grained schist bedrock is below a depth of 50 inches.

Included with this soil in mapping are a few small areas of Cataula, Cecil, Davidson, Winnsboro, Hiwassee, and Wilkes soils and small, eroded areas that have a surface layer of loam or clay loam. Also included are small areas that have slopes of less than 6 percent or more than 10 percent. The included soils make up about 10 percent of the map unit.

This Mecklenburg soil is low in content of organic matter. It is medium acid to neutral throughout the profile. Permeability is slow, and available water capacity is medium. This soil can be worked within a medium range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for small grain. It has fair suitability for row crops, hay, and pasture and poor suitability for peaches. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine and yellow-poplar. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for urban uses. The shrink-swell potential is a severe limitation, but excavating and filling with more desirable material or reinforcing the foundations can overcome this limitation. The slow permeability of the clayey subsoil is a severe limitation for septic tank absorption fields that is very difficult to improve, but this limitation can be modified by increasing the size of the absorption area. The soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 4o.

NaD—Nason loam, 10 to 15 percent slopes. This deep, well drained, strongly sloping soil is on slopes adjacent to medium and large streams and at the heads of drainageways. Slopes are smooth and convex. Areas are 4 to about 30 acres.

Typically, the surface layer is brown loam about 4 inches thick. The subsoil extends to a depth of 35 inches. It is yellowish red clay between the depth of 4 and 13 inches and yellowish red clay that has reddish yellow mottles between the depth of 13 and 21 inches. It is reddish yellow silty clay loam that has yellowish red and very pale brown mottles between the depth of 21 and 35 inches. The substratum, to a depth of 70 inches or more, is reddish yellow silt loam that has yellow and very pale brown mottles between the depth of 35 and 55 inches and very pale brown loam that has yellow and white mottles between the depth of 55 and 70 inches.

Included with this soil in mapping are a few small areas of Georgeville, Goldston, Herndon, Gundy, and Winnsboro soils. Also included are a few small areas that have slopes of less than 10 percent or more than 15 percent. The included soils make up about 8 percent of the unit.

This Nason soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has poor suitability for row crops, peaches, and small grain. It has fair suitability for hay and good suitability for pasture. Suitability is limited because of the strong slopes. Erosion is a very severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

Suitability is fair for most urban uses. Strong slopes and shrink-swell potential are limitations. However, cutting and filling can reduce the slope, and the potential for shrink-swell can be overcome by excavating and filling with more desirable material or by reinforcing foundations. The moderate permeability of the clayey subsoil is a limitation for septic tank absorption fields, but the limitation can be reduced by increasing the size of the absorption area. The soil has fair suitability for most recreation uses.

The capability subclass is IVe, and the woodland ordination symbol is 3o.

NaE—Nason loam, 15 to 25 percent slopes. This deep, well drained, moderately steep soil is on short slopes adjacent to medium and large streams. Slopes are smooth and convex. Areas are 10 to about 70 acres.

Typically, the surface layer is brown loam about 4 inches thick. The subsoil extends to a depth of 35 inches. It is yellowish red clay between the depth of 4 and 13 inches and yellowish red clay that has reddish yellow mottles between the depth of 13 and 21 inches. It is reddish yellow silty clay loam that has yellowish red and very pale brown mottles between the depth of 21 and 35 inches. The substratum, to a depth of 70 inches or more, is reddish yellow silt loam that has yellow and very pale brown mottles between the depth of 35 and 55 inches and very pale brown loam that has yellow and white mottles between the depth of 55 and 70 inches.

Included with this soil in mapping are a few small areas of Georgeville, Goldston, Herndon, Winnsboro, and Gundy soils. Also included are a few small areas that have slopes of less than 15 percent. The included soils make up about 10 percent of the unit.

This Nason soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has poor suitability for row crops, small grain, hay, and peaches and fair suitability for pasture. Suitability is limited because of the moderately steep slopes. Erosion is a very severe hazard if cultivated crops are grown. Because of the very severe erosion hazard, cultivation of this soil is not recommended. Use of the soil for trees is a suitable management practice.

Suitability is fair for loblolly pine. The moderately steep slope is a moderate limitation. Restricted use of equipment and the hazard of erosion are woodland management concerns.

This soil has poor suitability for urban uses. The moderately steep slope is a limitation that is difficult to overcome. This soil has poor suitability for most recreation uses.

The capability subclass is VIe, and the woodland ordination symbol is 3r.

NoA—Norfolk loamy sand, 0 to 2 percent slopes. This deep, well drained, nearly level soil is on broad upland areas of the Coastal Plain. Areas are 4 to about 150 acres.

Typically, the surface layer is grayish brown loamy sand about 7 inches thick. The subsurface layer is light yellowish brown loamy sand 8 inches thick. The subsoil extends to a depth of 71 inches or more. It is yellowish brown sandy loam between the depth of 15 and 20 inches and yellowish brown sandy clay loam between the depth of 20 and 39 inches. It is red sandy clay loam that has yellowish brown mottles between the depth of 39 and 45 inches and red clay loam that has yellowish red and reddish yellow mottles between the depth of 45 and 71 inches.

Included with this soil in mapping are a few small areas that have slopes of more than 2 percent. Also included are a few small areas of Faceville, Wagram, Orangeburg, and Marlboro soils. The included soils make up about 10 percent of this unit.

This Norfolk soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, hay, pasture, and peaches. There are no special conservation problems.

Suitability is good for loblolly pine and slash pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban and recreation uses.

The capability class is I, and the woodland ordination symbol is 2o.

NoB—Norfolk loamy sand, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad ridgetops and side slopes of the Coastal Plain. Slopes are smooth and convex. Areas are 4 to about 120 acres.

Typically, the surface layer is grayish brown loamy sand about 7 inches thick. The subsurface layer is light yellowish brown loamy sand 8 inches thick. The subsoil extends to a depth of 71 inches or more. It is yellowish brown sandy loam between the depth of 15 and 20 inches and yellowish brown sandy clay loam between the depth of 20 and 39 inches. It is red sandy clay loam that has yellowish brown mottles between the depth of 39 and 45 inches and red clay loam that has yellowish red and reddish yellow mottles between the depth of 45 and 71 inches.

Included with this soil in mapping are a few small areas that have slopes of less than 2 percent and a few small areas that have slopes of more than 6 percent. Also included are a few small areas of Faceville, Wagram, Orangeburg, and Marlboro soils. The included soils make up about 10 percent of this unit.

This Norfolk soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops (fig. 7), small grain, hay, pasture, and peaches. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, terraces, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

This soil has good suitability for loblolly and slash pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses and fair suitability for recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 2o.

NoC—Norfolk loamy sand, 6 to 10 percent slopes. This deep, well drained, sloping soil is on narrow ridges and in areas adjacent to drainageways. Slopes are smooth and convex. Areas are 5 to about 40 acres.

Typically, the surface layer is grayish brown loamy sand about 7 inches thick. The subsurface layer is light yellowish brown loamy sand 8 inches thick. The subsoil extends to a depth of 71 inches or more. It is yellowish brown sandy loam between the depth of 15 and 20

Figure 7.—Soybeans produce well on Norfolk loamy sand, 2 to 6 percent slopes.

inches and yellowish brown sandy clay loam between the depth of 20 and 39 inches. It is red sandy clay loam that has yellowish brown mottles between the depth of 39 and 45 inches and red clay loam that has yellowish red and reddish yellow mottles between the depth of 45 and 75 inches.

Included with this soil in mapping are a few small areas that have slopes of less than 6 percent and a few small areas that have slopes of more than 10 percent. Also included are a few small areas of Faceville, Wagram, Orangeburg, and Marlboro soils and a few small eroded areas that have a surface layer of clay loam or sandy clay loam. The included soils make up about 7 percent of this unit.

This Norfolk soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for row crops and small grain, and good suitability for hay, pasture, and peaches. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and slash pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Slope is a limitation, but cutting and filling can reduce the slope. The soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 2o.

***OrA*—Orangeburg loamy sand, 0 to 2 percent slopes.** This deep, well drained, nearly level soil is on broad upland areas of the Coastal Plain. Areas are 4 to about 200 acres.

Typically, the surface layer is brown loamy sand about 10 inches thick. The subsoil extends to a depth of 72 inches or more. It is light yellowish brown loamy sand between the depth of 10 and 16 inches and yellowish red sandy loam between the depth of 16 and 23 inches. It is red sandy clay loam that has strong brown mottles between the depth of 23 and 54 inches and red sandy clay loam between the depth of 54 and 72 inches.

Included with this soil in mapping are a few small areas that have slopes of more than 2 percent. Also included are a few small areas of Norfolk, Faceville, Wagram, Troup, and Marlboro soils. The included soils make up about 7 percent of this unit.

This Orangeburg soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, hay, pasture, and peaches. There are no special conservation problems.

Suitability is good for loblolly pine and slash pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for urban and recreation uses. There are no significant limitations for use.

The capability class is I, and the woodland ordination symbol is 2o.

OrB—Orangeburg loamy sand, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad ridges and slopes adjacent to small and medium streams of the Coastal Plain. Areas are 10 to about 400 acres.

Typically, the surface layer is brown loamy sand about 10 inches thick. The subsoil extends to a depth of 72 inches or more. It is light yellowish brown loamy sand between the depth of 10 and 16 inches and yellowish red sandy loam between the depth of 16 and 23 inches. It is red sandy clay loam that has strong brown mottles between the depth of 23 and 54 inches and red sandy clay loam between the depth of 54 and 72 inches.

Included with this soil in mapping are a few small areas of Norfolk, Faceville, Wagram, Troup, and Marlboro soils. Also included are a few small areas that have slopes of less than 2 percent or more than 6 percent. The included soils make up about 10 percent of this unit.

This Orangeburg soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has good suitability for row crops, small grain, hay, pasture, and peaches. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is good for loblolly pine and slash pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban and recreation uses. There are no significant limitations for use.

The capability subclass is IIe, and the woodland ordination symbol is 2o.

Re—Rembert loam. This deep, poorly drained, nearly level soil formed in clayey marine sediment of the Coastal Plain. It is in depressional areas generally known as Carolina Bays. These areas are subject to common flooding for long periods from December to April. Areas are 5 to about 80 acres.

Typically, the surface layer is black loam about 5 inches thick. The subsoil extends to a depth of 73 inches or more. It is gray clay between the depth of 5 and 27 inches and gray sandy clay loam that has white, strong brown, and yellowish brown mottles between the depth of 27 and 73 inches.

Included with this soil in mapping are a few small areas of soils that are more sandy throughout the profile than is typical. Also included are soils that are clayey to a depth of 60 inches or more. The included soils make up about 20 percent of the map unit.

The surface layer of this Rembert soil is medium in content of organic matter. It is strongly acid or very strongly acid except for the surface layer in limed areas. Permeability is slow, and available water capacity is medium. This soil can only be worked within a narrow range of moisture conditions. Even if the soil is properly drained, cultivation cannot take place so soon after rainfall as in better drained areas. The root zone is deep and is easily penetrated by roots. This soil has an apparent seasonal high water table at a depth of 0 to 1.0 foot from November to April.

This soil has fair suitability for row rops, small grain, and hay. It has good suitability for pasture and poor suitability for peaches. Suitability is limited because of wetness. A good drainage system is needed for maximum crop production. The open ditch drainage system that has good outlets is the best means of draining this clayey soil.

Suitability is good for loblolly pine, slash pine, and sweetgum. Restricted use of equipment and mortality of seedlings are concerns in woodland management.

This soil has fair suitability for openland and woodland wildlife habitat and good suitability for wetland wildlife habitat.

This soil has poor suitability for urban and recreation uses. Wetness is a limitation that is difficult to overcome.

The capability subclass is IIIw, and the woodland ordination symbol is 2w.

Rv—Riverview silt loam. This well drained, nearly level soil is on narrow, elongated flood plains along the larger streams. It is subject to common flooding for brief periods from December to March. Areas are 20 to 150 acres.

Typically, the surface layer is brown silt loam about 7 inches thick. The subsoil extends to a depth of 72 inches or more. It is yellowish red or reddish brown silt loam that has reddish yellow mottles between the depth of 7 and 40 inches and dark brown, brown, or strong brown loam between the depth of 40 and 72 inches.

Included with this soil in mapping are a few small areas of Enoree, Chewacla, and Toccoa soils. The included soils make up about 15 percent of this unit.

The surface layer of this Riverview soil is medium in content of organic matter. It is slightly acid to strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is medium to high. This soil can be worked within a medium range of moisture conditions. The root zone is deep and is easily penetrated by roots. This soil has an apparent seasonal high water table at a depth of 3.0 to 5.0 feet from December to March.

This soil has good suitability for row crops, small grain, hay, and pasture. Because of common flooding and the low lying position of this soil, it has poor suitability for peaches.

Suitability is good for loblolly pine, sweetgum, yellow-poplar, cottonwood, green ash, and southern red oak. There are no significant limitations for woodland use and management.

This soil has good suitability for woodland and openland wildlife habitat and poor suitability for wetland wildlife habitat.

This soil has poor suitability for urban uses. Flooding and wetness are severe hazards that are difficult to overcome. Because of common flooding, this soil has poor suitability for most recreation uses.

The capability subclass is IIw, and the woodland ordination symbol is 1o.

To—Toccoa sandy loam. This well drained, nearly level soil is on narrow, elongated flood plains along the small to large streams of the Piedmont Uplands. The soil is subject to occasional flooding for brief periods throughout the year. Areas are 20 to 150 acres.

Typically, the surface layer is brown sandy loam about 7 inches thick. The underlying material extends to a depth of 77 inches or more. It is dark brown sandy loam that has brownish yellow mottles and thin lenses of loamy fine sand between the depth of 7 and 20 inches. Between the depth of 20 and 33 inches, it is dark brown loam that has brownish yellow mottles and thin lenses of loamy fine sand; and between the depth of 33 and 39 inches, it is brown loam that has pale brown and strong brown mottles and black specks and thin lenses of loamy fine sand. It is brown loamy fine sand that has light yellowish brown, strong brown, and very dark grayish brown mottles between the depth of 39 and 45 inches, and it is yellowish brown sandy loam that has light yellowish brown mottles between the depth of 45

and 62 inches. Between the depth of 62 and 77 inches, it is brownish yellow fine sandy loam that has light gray and yellowish brown mottles.

Included with this soil in mapping are a few small areas of Chewacla, Enoree, and Riverview soils. The included soils make up about 15 percent of the map unit.

This Toccoa soil is strongly acid to slightly acid throughout the profile except for the surface layer in limed areas. The surface layer is medium in content of organic matter. Permeability is moderately rapid, and available water capacity is medium. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots. This soil has an apparent seasonal high water table at a depth of 2.5 to 5.0 feet from December to April.

This soil has fair suitability for row crops and small grain, good suitability for hay and pasture, and poor suitability for peaches. Flooding is a severe hazard that is difficult to overcome.

Suitability is good for loblolly pine, sweetgum, yellow-poplar, cottonwood, green ash, and southern red oak. The use of equipment is restricted for short periods during wet seasons.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for urban uses and fair suitability for recreation uses. Flooding is a severe hazard that is difficult to overcome.

The capability subclass is IIw, and the woodland ordination symbol is 1o.

TrB—Troup sand, 0 to 6 percent slopes. This deep, well drained, moderately permeable, nearly level to gently sloping soil is on broad ridges and areas adjacent to small and medium streams of the Coastal Plain. Areas are 10 to about 300 acres.

Typically, the surface layer is grayish brown sand about 9 inches thick. The subsurface layer is light yellowish brown sand that has uncoated grains of white sand about 44 inches thick. The subsoil extends to a depth of 81 inches or more. It is yellowish brown sandy loam that has strong brown mottles between the depth of 53 and 61 inches and mottled strong brown, pale brown, and red sandy clay loam between the depth of 61 and 81 inches.

Included with this soil in mapping are small areas of Norfolk, Faceville, Wagram, Lakeland, and Orangeburg soils. Also included are a few small areas that have slopes of more than 6 percent. The included soils make up about 8 percent of this unit.

This Troup soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is low. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has poor suitability for row crops, small grain, and peaches. It has good suitability for hay and pasture (fig. 8). Suitability is limited because of the sandy, droughty condition of the soil and the rapid removal of limestone and fertilizer by leaching. Because of the hazard of removal by leaching, applications of lime and fertilizer are needed throughout the growing season.

Suitability is fair for loblolly pine, longleaf pine, and slash pine. The thick, sandy surface layer limits the use of equipment and the growth of seedlings.

This soil has fair suitability for openland wildlife habitat, poor suitability for woodland wildlife habitat, and very poor suitability for wetland wildlife habitat.

This soil has good suitability for most urban uses. This soil has fair suitability for most recreation uses because of the thick, sandy surface layer.

The capability subclass is IIIs, and the woodland ordination symbol is 3s.

TrC—Troup sand, 6 to 10 percent slopes. This deep, well drained, moderately permeable, sloping soil is on narrow ridges and areas adjacent to drainageways of the Coastal Plain. Areas are 10 to about 60 acres.

Typically, the surface layer is grayish brown sand about 9 inches thick. The subsurface layer is light yellowish brown sand that has uncoated grains of white sand about 44 inches thick. The subsoil extends to a depth of 81 inches or more. It is yellowish brown sandy loam that has strong brown mottles between the depth of 53 and 61 inches and mottled strong brown, pale brown, and red sandy clay loam between the depth of 61 and 81 inches.

Included with this soil in mapping are small areas of Faceville, Wagram, Lakeland, Norfolk, and Orangeburg soils. Also included are a few small areas that have slopes of less than 6 percent and a few small areas that have slopes of more than 10 percent. The included soils make up about 8 percent of this unit.

This Troup soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is low. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has poor suitability for row crops, small grain, and peaches and good suitability for hay and pasture. Suitability is limited because of the sandy, droughty condition of the soil and the rapid removal of limestone and fertilizer by leaching. Because of the rapid removal by leaching, applications of lime and fertilizer are needed throughout the growing season.

Suitability is fair for loblolly pine, longleaf pine, and slash pine. The thick sandy surface layer is a moderate limitation for the use of equipment and the growth of seedlings.

This soil has fair suitability for openland wildlife habitat, poor suitability for woodland wildlife habitat, and very poor suitability for wetland wildlife habitat.

Figure 8.—Good stand of coastal bermudagrass on Troup sand, 0 to 6 percent slopes.

This soil has good suitability for most urban uses. It has fair suitability for most recreation uses.

The capability subclass is IVs, and the woodland ordination symbol is 3s.

TWD—Troup, Wagram, and Lakeland sands, 10 to 15 percent slopes. This map unit consists of deep, well drained to excessively drained soils. These strongly sloping soils are on side slopes adjacent to small to large streams and at the heads of drainageways of the Coastal Plain. Slopes are smooth and convex.

A typical area of this map unit is about 35 percent Troup soils, 34 percent Wagram soils, 15 percent Lakeland soils, and 16 percent other, generally wetter, soils at the lower end of the slope. These soils are in an irregular pattern. Areas of each soil are large enough to map separately, but because of present and predicted use, they were mapped as one unit. Most mapped areas are made up of all three soils, but a few areas are made up of only one of the soils. Areas are 5 to about 30 acres.

Typically, the surface layer of Troup soils is grayish brown sand about 9 inches thick. The subsurface layer is light yellowish brown sand that has uncoated grains of white sand about 44 inches thick. The subsoil extends to a depth of 81 inches or more. It is yellowish brown sandy loam that has strong brown mottles between the depth of 53 and 61 inches and mottled strong brown, pale brown, and red sandy clay loam between the depth of 61 and 81 inches.

Troup soils are low in content of organic matter. They are strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is low. These soils can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

Typically, Wagram soils have a surface layer of dark grayish brown sand about 7 inches thick. The subsurface

layer is about 21 inches thick. It is light yellowish brown sand that has areas of clean white sand. The subsoil extends to a depth of 70 inches or more. It is brownish yellow sandy loam that has strong brown mottles between the depth of 28 and 44 inches and yellowish brown sandy clay loam that has red and yellowish red mottles between the depth of 44 and 60 inches. Red sandy clay loam that has light yellowish brown and yellowish red mottles is between the depth of 60 and 70 inches.

Wagram soils are low in content of organic matter. They are strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is low. These soils can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

Typically, the Lakeland soils have a surface layer of brown sand about 8 inches thick. The upper part of the underlying material, between the depth of 8 and 55 inches, is yellowish brown or strong brown sand. The lower part, between the depth of 55 and 82 inches, is brownish yellow sand that has uncoated, white sand grains.

Lakeland soils are low in content of organic matter. They are medium acid to very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is very rapid, and available water capacity is low. These soils can be worked throughout a very wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

Troup, Wagram, and Lakeland soils have poor suitability for row crops, small grain, and peaches. They have good suitability for hay and pasture. The sandy, droughty condition of these soils is a limitation to use. Because of rapid removal by leaching, applications of lime and fertilizer are needed throughout the growing season.

Suitability is fair for loblolly pine, longleaf pine, and slash pine. The thick sandy surface layer is a moderate limitation to use of equipment and growth of seedlings.

These soils have fair suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

These soils have good suitability for most urban uses. Because of the thick sandy surface layer, they have fair suitability for most recreation uses.

The capability subclass is VIs. The woodland ordination symbol is 3s for Troup and Wagram soils and 4s for Lakeland soils.

WaB—Wagram sand, 0 to 6 percent slopes. This deep, well drained, nearly level to gently sloping soil is on broad upland areas of the Coastal Plain. Areas are 10 to about 200 acres.

Typically, the surface layer is dark grayish brown sand about 7 inches thick. The subsurface layer is light yellowish brown sand 21 inches thick. The subsoil extends to a depth of 70 inches or more. It is brownish yellow sandy loam that has strong brown mottles between the depth of 28 and 44 inches and yellowish brown sandy clay loam that has red and yellowish red mottles between the depth of 44 and 60 inches. Red sandy clay loam that has light yellowish brown and yellowish red mottles is between the depth of 60 and 70 inches.

Included with this soil in mapping are a few small areas that have slopes of more than 6 percent. Also included are a few small areas of Troup, Norfolk, Lakeland, Orangeburg, and Marlboro soils. The included soils make up about 7 percent of this unit.

This Wagram soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Permeability is moderate, and available water capacity is low. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for most row crops and good suitability for hay, pasture, and peaches. Suitability is limited to some extent by the droughtiness of the thick surface layer.

Suitability is good for loblolly pine and slash pine. Moderately restricted use of equipment and moderate seedling mortality are woodland management concerns.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has good suitability for urban uses and fair suitability for recreation uses.

The capability subclass is IIs, and the woodland ordination symbol is 3s.

WaC—Wagram sand, 6 to 10 percent slopes. This deep, well drained, sloping soil is on narrow ridges and in areas adjacent to drainageways of the Coastal Plain. Areas are 10 to about 60 acres.

Typically, the surface layer is dark grayish brown sand about 7 inches thick. The subsurface layer is light yellowish brown sand 21 inches thick. The subsoil extends to a depth of 70 inches or more. It is brownish yellow sandy loam that has strong brown mottles between the depth of 28 and 44 inches and yellowish brown sandy clay loam that has red and yellowish red mottles between the depth of 44 and 60 inches. Red sandy clay loam that has light yellowish brown and yellowish red mottles is between the depth of 60 and 70 inches.

Included with this soil in mapping are a few small areas that have slopes of less than 6 percent or more than 10 percent. Also included are a few small areas of Troup, Norfolk, Lakeland, and Orangeburg soils. The included soils make up about 10 percent of this unit.

This Wagram soil is low in content of organic matter. It is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

Permeability is moderate, and available water capacity is low. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is easily penetrated by roots.

This soil has fair suitability for most row crops and good suitability for hay, pasture, and peaches. Suitability is limited to some extent by the droughtiness of the thick surface layer.

Suitability is good for loblolly pine and slash pine. Moderately restricted use of equipment and moderate seedling mortality are woodland management concerns.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. Slope is a moderate limitation, but cutting and filling can reduce the slope. The soil has fair suitability for most recreation uses.

The capability subclass is IIIs, and the woodland ordination symbol is 3s.

WeE—Wateree sandy loam, 10 to 25 percent slopes. This moderately deep, well drained soil is on strongly sloping and moderately steep side slopes of the Piedmont Uplands. Slopes are smooth and convex. Areas are 4 to about 100 acres.

Typically, the surface layer is very dark grayish brown sandy loam about 4 inches thick. The subsurface layer is brown sandy loam 9 inches thick. The subsoil extends to a depth of 48 inches or more. It is light yellowish brown sandy loam that has very pale brown mottles between the depth of 13 and 23 inches, and it is finely mottled pale brown, brownish yellow, strong brown, and white loamy sand between the depth of 23 and 38 inches. Weathered granite saprolite that crushes to loamy sand is between the depth of 38 and 48 inches. Granite bedrock is below a depth of 48 inches.

Included with this soil in mapping are a few small areas that have slopes of less than 6 percent. Also included are a few small areas of Appling, Cecil, Pacolet, and Wilkes soils. These inclusions make up about 10 percent of this unit.

This Wateree soil is low in content of organic matter. It is medium acid to extremely acid throughout the profile except for the surface layer in limed areas. Permeability is moderately rapid, and available water capacity is low. This soil can be worked throughout a wide range of moisture conditions. The root zone is moderately deep and is easily penetrated by roots.

This soil has poor suitability for row crops, small grain, hay, and peaches and fair suitability for pasture. Erosion is a very severe hazard if cultivated crops are grown. Because of the very severe erosion hazard, cultivation is not recommended. Use of the soil for trees helps to control erosion.

Suitability is fair for loblolly pine and slash pine. The moderately steep slope is a limitation. The hazard of erosion and restricted use of equipment are concerns in managing the tree crop.

This soil has fair suitability for woodland wildlife habitat, poor suitability for openland wildlife habitat, and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for most urban uses because of the strongly sloping and moderately steep slopes. However, cutting and filling can reduce the slope. The soil has poor suitability for most recreation uses.

The capability subclass is VIIe, and the woodland ordination symbol is 3r.

WkC—Wilkes sandy loam, 6 to 10 percent slopes. This moderately deep, well drained, sloping soil is in areas adjacent to small and medium streams. Areas are 4 to about 20 acres.

Typically, the surface layer is dark grayish brown sandy loam about 6 inches thick. The subsoil extends to a depth of 18 inches. It is yellowish brown clay that has brownish yellow, strong brown, and gray mottles between the depth of 6 and 14 inches; and it is finely mottled yellowish brown, light yellowish brown, black, gray, and reddish yellow sandy clay loam between the depth of 14 and 18 inches. The substratum, to a depth of 44 inches or more, is finely mottled black, strong brown, light yellowish brown, white, yellow, and gray sandy loam between the depth of 18 and 25 inches. Finely mottled black, light yellowish brown, white, and yellow loamy sand is between the depth of 25 and 39 inches, and partially weathered hornblende schist and granite that crush to loamy sand are between the depth of 39 and 44 inches. Hornblende schist and granite bedrock is below a depth of 44 inches.

Included with this soil in mapping are small areas of Winnsboro, Wateree, Mecklenburg, and Pacolet soils and a few small areas that have slopes of less than 6 percent or more than 10 percent. The included soils make up about 8 percent of the unit.

This Wilkes soil is low in content of organic matter. It is slightly acid to strongly acid in the surface layer and slightly acid to mildly alkaline in the subsoil and substratum. Permeability is moderately slow, and available water capacity is low. The soil can be worked throughout a wide range of moisture conditions. The root zone is moderately deep.

This soil has poor suitability for row crops and peaches and fair suitability for small grain. It has good suitability for hay and pasture. Suitability is limited because of the slope and depth of the root zone. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine and eastern redcedar. There are no significant limitations for woodland use or management.

This soil has fair suitability for woodland wildlife habitat, poor suitability for openland wildlife habitat, and very poor suitability for wetland wildlife habitat.

This soil has fair suitability for most urban uses. The depth to rock and moderate shrink-swell potential are limitations. Depth to rock can be overcome by ripping or blasting or by using structural designs which do not penetrate the bedrock. The shrink-swell potential can be overcome by excavating and filling with more desirable material. Depth to rock is a severe limitation for septic tank absorption fields, but this limitation can be modified by increasing the size of the absorption area. The soil has fair suitability for most recreation uses.

The capability subclass is IVe, and the woodland ordination symbol is 4o.

WkD—Wilkes sandy loam, 10 to 15 percent slopes. This moderately deep, well drained, strongly sloping soil is on slopes adjacent to small and medium streams. Areas are 4 to about 20 acres.

Typically, the surface layer is dark grayish brown sandy loam about 6 inches thick. The subsoil extends to a depth of 18 inches. It is yellowish brown clay that has brownish yellow, strong brown, and gray mottles between the depth of 6 and 14 inches; and it is finely mottled yellowish brown, light yellowish brown, black, gray, and reddish yellow sandy clay loam between the depth of 14 and 18 inches. The substratum, to a depth of 44 inches or more, is finely mottled black, strong brown, light yellowish brown, white, yellow, and gray sandy loam between the depth of 18 and 25 inches. Finely mottled black, light yellowish brown, white, and yellow loamy sand is between the depth of 25 and 39 inches, and partially weathered hornblende schist and granite that crush to loamy sand are between the depth of 39 and 44 inches. Hornblende schist and granite bedrock is below a depth of 44 inches.

Included with this soil in mapping are small areas of Winnsboro, Wateree, Mecklenburg, and Pacolet soils and a few small areas that have slopes of less than 10 percent or more than 15 percent. The included soils make up about 15 percent of the unit.

This Wilkes soil is low in content of organic matter. It is slightly acid to strongly acid in the surface layer and slightly acid to mildly alkaline in the subsoil and substratum. Permeability is moderately slow, and available water capacity is low. This soil can be worked throughout a wide range of moisture conditions. The root zone is moderately deep.

This soil has poor suitability for row crops and peaches and fair suitability for small grain. It has good suitability for hay and pasture. Suitability is limited because of slope and depth of the root zone. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine and eastern redcedar. There are no significant limitations for woodland use or management.

This soil has fair suitability for woodland wildlife habitat, poor suitability for openland wildlife habitat, and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for most urban uses. The depth to rock and moderate shrink-swell potential are limitations. Depth to rock can be overcome by ripping or blasting or by using structural designs which do not penetrate the bedrock. The moderate shrink-swell potential can be overcome by excavating and filling with more desirable material. Depth to rock is a severe limitation for septic tank absorption fields. This limitation can be modified, however, by increasing the size of the absorption area. The soil has fair suitability for most recreation uses.

The capability subclass is VIe, and the woodland ordination symbol is 4o.

WkE—Wilkes sandy loam, 15 to 40 percent slopes. This moderately deep, well drained, moderately steep to steep soil is on slopes adjacent to medium and large streams. Areas are 10 to about 60 acres.

Typically, the surface layer is dark grayish brown sandy loam about 6 inches thick. The subsoil extends to a depth of 18 inches. It is yellowish brown clay that has brownish yellow, strong brown, and gray mottles between the depth of 6 and 14 inches; and it is finely mottled yellowish brown, light yellowish brown, black, gray, and reddish yellow sandy clay loam between the depth of 14 and 18 inches. The substratum, to a depth of 44 inches or more, is finely mottled black, strong brown, light yellowish brown, white, yellow, and gray sandy loam between the depth of 18 and 25 inches. Finely mottled black, light yellowish brown, white, and yellow loamy sand is between the depth of 25 and 39 inches, and partially weathered hornblende schist and granite that crushes to loamy sand is between the depth of 39 and 44 inches. Hornblende schist and granite bedrock is below a depth of 44 inches.

Included with this soil in mapping are small areas of Winnsboro, Wateree, and Pacolet soils; small areas that have shallow gullies; and small areas of rock outcrop. Also included are a few small areas that have slopes of less than 15 percent or more than 40 percent. The included soils make up about 15 percent of the unit.

This Wilkes soil is low in content of organic matter. It is slightly acid to strongly acid in the surface layer and slightly acid to mildly alkaline in the subsoil and substratum. Permeability is moderately slow, and available water capacity is low. This soil can be worked throughout a wide range of moisture conditions. The root zone is moderately deep.

This soil has poor suitability for row crops, peaches, small grain, and hay. It has fair suitability for pasture. Erosion is a very severe hazard if cultivated crops are grown. Because of the hazard of erosion, cultivation of this soil is not recommended. The soil is best suited to permanent sod or trees.

Suitability is fair for loblolly pine and eastern redcedar. The moderately steep and steep slopes are moderate

limitations. The hazard of erosion and restricted use of equipment are concerns in managing the tree crop.

This soil has fair suitability for woodland wildlife habitat, poor suitability for openland wildlife habitat, and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for urban uses. Moderately steep and steep slopes and depth to rock are limitations. Steepness of slope can be reduced by cutting and filling, and depth to rock can be overcome by ripping or blasting or by using structural designs which do not penetrate the bedrock. Depth to rock is a severe limitation for septic tank absorption fields, but this limitation can be modified by increasing the size of the absorption area.

The capability subclass is VIIe, and the woodland ordination symbol is 4r.

WnB—Winnsboro fine sandy loam, 2 to 6 percent slopes. This deep, well drained, gently sloping soil is on broad ridges and slopes adjacent to small and medium streams. Slopes are smooth and convex. Areas are 10 to 100 acres.

Typically, the surface layer is brown fine sandy loam about 6 inches thick. The subsoil extends to a depth of 38 inches. It is brownish yellow sandy loam between the depth of 6 and 10 inches and strong brown clay that has yellowish red and brownish yellow mottles between the depth of 10 and 22 inches. Between the depth of 22 and 35 inches, the subsoil is strong brown clay that has brownish yellow and pale brown mottles; and between the depth of 35 and 38 inches, it is yellowish brown clay loam that has reddish yellow, light gray, and very pale brown mottles. The substratum, to a depth of 61 inches or more, is yellowish brown loam that has pale yellow and light gray mottles.

Included with this soil in mapping are a few small areas of Cataula, Cecil, Helena, Georgeville, Herndon, Kirksey, and Mecklenburg soils. Also included are a few small areas that have slopes of more than 6 percent. The included soils make up about 10 percent of the unit.

This Winnsboro soil is low in content of organic matter. It is strongly acid to slightly acid in the surface layer and slightly acid to mildly alkaline in the subsoil and substratum. Permeability is slow, and available water capacity is high. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is fairly easily penetrated by roots. This soil has a high rate of shrinking and swelling.

This soil has good suitability for row crops, small grain, hay, and pasture. It has poor suitability for peaches. Erosion is a moderate hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for most urban uses. The high shrink-swell potential is a limitation, but this limitation can be overcome by excavating and filling with more desirable material. Slow permeability of the clayey subsoil is a severe limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area or, in places, by installing the filter line below the clayey subsoil. This soil has fair suitability for most recreation uses.

The capability subclass is IIe, and the woodland ordination symbol is 4o.

WnC—Winnsboro fine sandy loam, 6 to 10 percent slopes. This deep, well drained, sloping soil is on ridges and side slopes adjacent to the small and medium streams and at the heads of drainageways. Slopes are smooth and convex. Areas are 10 to about 60 acres.

Typically, the surface layer is brown fine sandy loam about 6 inches thick. The subsoil extends to a depth of 38 inches. It is brownish yellow sandy loam between the depth of 6 and 10 inches and strong brown clay that has yellowish red and brownish yellow mottles between the depth of 10 and 22 inches. Between the depth of 22 and 35 inches, the subsoil is strong brown clay that has brownish yellow and pale brown mottles; and between the depth of 35 and 38 inches, it is yellowish brown clay loam that has reddish yellow, light gray, and very pale brown mottles. The substratum, to a depth of 61 inches or more, is yellowish brown loam that has pale yellow and light gray mottles.

Included with this soil in mapping are a few small areas of Cataula, Cecil, Georgeville, Herndon, Kirksey, Mecklenburg, and Wilkes soils. Also included are a few small areas that have slopes of less than 6 percent or more than 10 percent. The included soils make up about 12 percent of the unit.

This Winnsboro soil is low in content of organic matter. It is strongly acid to slightly acid in the surface layer and slightly acid to mildly alkaline in the subsoil and substratum. Permeability is slow, and available water capacity is high. This soil can be cultivated throughout a wide range of moisture conditions. The root zone is deep and is fairly easily penetrated by roots. This soil has a high rate of shrink-swell.

This soil has fair suitability for row crops and small grain. It has good suitability for hay and pasture and poor suitability for peaches. Erosion is a severe hazard if cultivated crops are grown. Minimum tillage, terraces, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for most urban uses. The high shrink-swell potential is a limitation, but this limitation can be overcome by excavating and filling with more desirable material. Slow permeability of the clayey subsoil is a severe limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area or, in places, by installing the filter line below the clayey subsoil. This soil has fair suitability for most recreation uses.

The capability subclass is IIIe, and the woodland ordination symbol is 4o.

WnD—Winnsboro fine sandy loam, 10 to 15 percent slopes. This deep, well drained, strongly sloping soil is on slopes adjacent to medium and large streams and at the heads of drainageways. Slopes are smooth and convex. Areas are 4 to about 30 acres.

Typically, the surface layer is brown fine sandy loam about 6 inches thick. The subsoil extends to a depth of 38 inches. It is brownish yellow sandy loam between the depth of 6 and 10 inches and strong brown clay that has yellowish red and brownish yellow mottles between the depth of 10 and 22 inches. Between the depth of 22 and 35 inches, the subsoil is strong brown clay that has brownish yellow and pale brown mottles; and between the depth of 35 and 38 inches, it is yellowish brown clay loam that has reddish yellow, light gray, and very pale brown mottles. The substratum, to a depth of 61 inches or more, is yellowish brown loam that has pale yellow and light gray mottles.

Included with this soil in mapping are a few small areas of Cecil, Georgeville, Herndon, Goldston, Gundy, Nason, and Wilkes soils. Also included are a few small areas that have slopes of less than 10 percent or more than 15 percent. The included soils make up about 10 percent of the unit.

This Winnsboro soil is low in content of organic matter. It is strongly acid to slightly acid in the surface layer and slightly acid to mildly alkaline in the subsoil and substratum. Permeability is slow, and available water capacity is high. This soil can be worked throughout a wide range of moisture conditions. The root zone is deep and is fairly easily penetrated by roots. This soil has a high rate of shrinking and swelling.

This soil has fair suitability for row crops and small grain and poor suitability for peaches. It has good suitability for hay and pasture. Suitability is limited because of strong slopes. Erosion is a very severe hazard if cultivated crops are grown. Minimum tillage, contour farming, contour stripcropping, grassed waterways, and the use of cover crops, including grasses and legumes in the cropping system, help to reduce runoff and control erosion.

Suitability is fair for loblolly pine. There are no significant limitations for woodland use or management.

This soil has good suitability for openland and woodland wildlife habitat and very poor suitability for wetland wildlife habitat.

This soil has poor suitability for most urban uses. The high shrink-swell potential is a limitation, but this limitation can be overcome by excavating and filling with more desirable material. Slow permeability of the clayey subsoil is a severe limitation for septic tank absorption fields, but the function of the system can be improved by increasing the size of the absorption area or, in places, by installing the filter line below the clayey subsoil. This soil has fair suitability for most recreation uses.

The capability subclass is IVe, and the woodland ordination symbol is 4o.

Use and management of the soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and suitabilities of natural resources and the environment. Also, it can help avoid soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavior characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops, pasture, and woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the suitability and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and pasture

Charles A. Holden, Jr., conservation agronomist, Soil Conservation Service, assisted in preparing this section.

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, are identified; the system of land capability classification used by the Soil Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under "Soil maps for detailed planning." Specific information can be obtained from the local office of the Soil Conservation Service or the Cooperative Extension Service.

More than 70,000 acres in Edgefield County was used for pasture and field crops in 1970, according to the Conservation Needs Inventory (*8*). Of this total, about 21,000 acres was used for permanent pasture, and about 50,000 acres was used for field crops; mainly soybeans, peaches, corn, cotton, wheat, and oats.

The suitability of the soils in Edgefield County for increased production of food is good. The production of food can be increased considerably by extending the latest crop production technology to all cropland in the county. This soil survey can greatly facilitate the application of such technology.

Acreage in pasture has gradually been decreasing as more and more land is used for row crops, peaches, and urban development. In 1970 an estimated 8,000 acres (*8*) was urban and built-up land in the county. This figure has been growing at the rate of about 120 acres per year. The use of this soil survey to help make land use decisions that will influence the future role of farming in the county is discussed in the section "General soil map for broad land use."

Soil erosion is the major concern on about 85 percent of the land in Edgefield County. If the slope is very long or more than 2 percent, water erosion is a hazard. Most soils in Edgefield County that are used for crops have slopes of more than 2 percent and are subject to damage by water erosion. Wind erosion is also a concern on clean tilled sandy soils.

Loss of the surface layer through erosion is damaging for two reasons. First, productivity is reduced as the surface layer is lost and part of the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils that have a clayey subsoil, for example, on the Cecil, Faceville, Georgeville, Herndon, Hiwassee, and Winnsboro soils and on soils that have a layer in or below the subsoil that limits the depth of the root zone. Such layers include a dense brittle layer, as in the Cataula soil. Erosion also reduces productivity on soils that tend to be drouthy. Second, soil erosion on farmland results in sediment entering streams. Control of erosion minimizes the pollution of streams by sediment and improves the quality of water for municipal use, for recreation, and for fish and wildlife.

In many sloping fields, preparing a good seedbed and tilling are difficult on clayey spots, because the original, friable surface layer has been eroded away. Such spots are common in areas of the eroded Cecil and Hiwassee soils.

Water erosion can be controlled by water management systems that include diversions, terraces, contour tillage, and grassed waterways. Cropping systems that include sod crops in the rotation and tillage that leaves protective residue on the surface help to control water erosion. Erosion control practices should provide protective surface cover, reduce runoff, and increase infiltration. On livestock farms, which require pasture and hay, the legume and grass forage crops in the cropping system reduce erosion on the sloping land and also provide nitrogen for the following crop. Strips of close growing cover crops or permanent vegetated strips help to protect sandy soils that are subject to wind erosion.

These erosion control practices can be adapted to most soils in Edgefield County but are more difficult to use successfully on eroded soils. No-tillage for soybeans and corn is effective in reducing erosion on sloping land and can be adapted to most soils in Edgefield County.

Terraces and diversions reduce the length of slope and reduce runoff and erosion. They are most practical on deep, well drained soils that have regular slopes. Appling, Cataula, Cecil, Davidson, Durham, Faceville, Georgeville, Helena, Herndon, Hiwassee, Kirksey, Marlboro, Mecklenburg, Norfolk, Orangeburg, and Winnsboro soils are suitable for terraces. Other soils in the county are less suitable for terracing and diversions because they have steep slopes or are too sandy.

Contouring and contour stripcropping are erosion control practices which are best adapted to soils that have smooth, uniform slopes, for example, most areas of the sloping Appling, Cecil, Cataula, Davidson, Durham, Faceville, Georgeville, Helena, Herndon, Hiwassee, Kirksey, Lakeland, Marlboro, Mecklenburg, Norfolk, Orangeburg, Troup, Wagram, and Winnsboro soils.

Information on the design of erosion control practices for each kind of soil is available in the local office of the Soil Conservation Service.

Soil drainage is not a major management concern in Edgefield County. Less than 2 percent of the total acreage needs some type of artificial drainage. This acreage is largely made up of Chewacla, Enoree, and Rembert soils. In addition, wet areas of Riverview and Toccoa soils along drainageways and in swales need artificial drainage.

Soil fertility is naturally low in all soils in Edgefield County. These soils need regular applications of lime and fertilizer. Nearly all of the upland soils are naturally strongly acid or very strongly acid. If they have never been limed, they require regular applications of ground

limestone to raise and maintain the pH level sufficiently for good crop growth. Available phosphorus and potash levels are naturally low in most of these soils. On all soils, additions of lime and fertilizer should be based on the results of soil tests, on the need of the crop, and on the expected level of yields. The Cooperative Extension Service can help in determining the kinds and amounts of fertilizer and lime to apply.

Soil tilth is an important factor in the germination of seeds and in the infiltration of water into the soil. Soils that have good tilth are granular and porous. Most of the soils used for crops in Edgefield County have a sandy loam surface layer and are low in content of organic matter. Generally, the structure is weak and granular, which is generally ideal for good germination of seeds and infiltration of water.

Fall plowing is generally not a good practice on the soils in this county because most of the cropland consists of sloping soils that are subject to damaging erosion if they are plowed in the fall. However, if erosion is controlled, fall plowing generally results in good tilth in spring.

Field crops suited to the soil and climate of the county include many that are not commonly grown. Soybeans, corn, cotton, and, to an increasing extent, grain sorghum are the important row crops. English peas, sunflowers, peanuts, potatoes, squash, cucumbers, okra, snap beans, and similar crops can be grown. Wheat, rye, and oats are the common close growing crops. Barley grows well, and grass seed from fescue, orchardgrass, and bahiagrass can be produced.

Special crops grown in the county are vegetables, small fruits, peaches, plums, apples, and nursery plants. A small acreage is used for melons, strawberries, sweet corn, tomatoes, and other vegetables. In addition, large areas can be adapted to other special crops, for example, grapes and pears and many vegetables.

Deep soils that have good natural drainage and that warm up early in spring are especially well suited to many vegetables. In this county, crops generally can be planted and harvested early on Appling, Cataula, Cecil, Durham, Faceville, Georgeville, Herndon, Hiwassee, Lakeland, Marlboro, Mecklenburg, Norfolk, Orangeburg, Troup, Wagram, and Winnsboro soils.

Latest information and suggestions for growing special crops can be obtained from local offices of the Cooperative Extension Service and the Soil Conservation Service.

Yields per acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green-manure crops; and harvesting that insures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 6 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Soil Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils.

Land capability classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor does it consider possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland and for engineering purposes.

In the capability system, soils are generally grouped at two levels: capability class and subclass. These levels are defined in the following paragraphs.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have slight limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w, s, or c* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

The acreage of soils in each capability class and subclass is shown in table 7. The capability classification of each map unit is given in the section "Soil maps for detailed planning."

Woodland management and productivity

Norman W. Runge, forester, Soil Conservation Service, assisted in preparing this section.

This section explains how soils affect tree growth and woodland management in Edgefield County.

Originally, the county was mainly woodland. Trees now cover about 77 percent of the county. Good stands of commercial trees are produced. Needle-leaved species grow most frequently on the hills, and broad-leaved species generally are dominant in the bottom lands along rivers and creeks.

The commercial value of wood products in the county is substantial, but it is much below the potential productive capacity. In addition to the commercial value, other woodland values include use for grazing, wildlife habitat, recreation, natural beauty, and watershed protection.

Table 8 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. The table lists the ordination (woodland suitability) symbol for each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for important trees. The number 1 indicates very high productivity; 2, high; 3, moderately high; 4, moderate; and 5, low. The second part of the symbol, a letter, indicates the major, if any, soil limitation. The letter *x* indicates stoniness or rockiness; *w*, excessive water in or on the soil; *t*, toxic substances in the soil; *d*, restricted root depth; *c*, clay in the upper part of the soil; *s*, sandy texture; *f*, high content of coarse fragments in the soil profile; and *r*, steep slopes. The letter *o* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: x, w, t, d, c, s, f, and r.

In table 8, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Ratings of the *erosion hazard* indicate the risk of loss of soil in well managed woodland. The risk is *slight* if the expected soil loss is small, *moderate* if measures are needed to control erosion during logging and road construction, and *severe* if intensive management or special equipment and methods are needed to prevent excessive loss of soil.

Ratings of *equipment limitation* reflect the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. A rating of *slight* indicates that use of equipment is not limited to a particular kind of equipment or time of year; *moderate* indicates a short seasonal limitation or a need for some modification in management or in equipment; and *severe* indicates a seasonal limitation, a need for special equipment or management, or a hazard in the use of equipment.

Seedling mortality ratings indicate the degree to which the soil affects the mortality of tree seedlings. Plant competition is not considered in the ratings. The ratings apply to seedlings from good stock that are properly planted during a period of sufficient rainfall. A rating of *slight* indicates that the expected mortality is less than 25 percent; *moderate*, 25 to 50 percent; and *severe*, more than 50 percent.

Ratings of *windthrow hazard* are based on soil characteristics that affect the development of tree roots and the ability of the soil to hold trees firmly. A rating of *slight* indicates that a few trees may be blown down by normal winds; *moderate*, that some trees will be blown down during periods of excessive soil wetness and strong winds; and *severe*, that many trees are blown down during periods of excessive soil wetness and moderate or strong winds.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index.* This index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified

number of years. The site index was calculated at 30 years for eastern cottonwood, 35 years for American sycamore, and 50 years for all other species. It applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

Trees to plant are those that are suited to the soils and to commercial wood production.

Recreation

Recreation facilities are varied and extensive in Edgefield County. There are many parks, athletic fields, playgrounds, tennis courts, swimming pools, horse and motorcycle trails, and golf courses. Recreation centers in the county are available for indoor sports and gatherings. The Savannah and Edisto Rivers; Turkey, Stevens, Beaverdam, Horn, Shaw, and other creeks; small streams; and many farm ponds throughout the county are used for fishing and swimming.

During scheduled seasons, several thousand acres in Edgefield County are opened for deer, turkey, and small game hunting. These areas, owned by the U.S. Forest Service, several paper companies, and others, are made available through the Game Management Program and administered, in cooperation with the owners, by the South Carolina Wildlife and Marine Resources Department.

All of these recreation facilities are made accessible by many miles of paved highways.

The soils of the survey area are rated in table 9 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewerlines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreation use by the duration and frequency of flooding and the season when flooding occurs. In planning recreation facilities, onsite assessment of the hazard of flooding is essential.

In table 9, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 9 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 12 and interpretations for dwellings without basements and for local roads and streets in table 11.

Camp areas require site preparation such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking, horseback riding, and bicycling should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Wildlife habitat

William J. Melven, biologist, Soil Conservation Service, assisted in preparing this section.

The early settlers depended upon the wildlife in Edgefield for food and clothing. White-tailed deer, gray squirrel, and cottontail furnished food, and their hides were used for clothing and as items for trade. Later, hunting was mostly for sport. The principal game species in the county at present are eastern cottontail, gray squirrel, white-tailed deer, wild turkey, and bobwhite quail. Mourning dove inhabits the county and is also a migratory species. Squirrel, rabbit, dove, and quail are the most commonly hunted small game, and deer is the most commonly hunted big game. Turkey hunting is increasing because of the restocking efforts of the South Carolina Wildlife and Marine Resources Department.

Recently, people have become interested in wildlife other than for purposes of hunting. Watching and

listening to wildlife and photographing and painting them have become popular activities.

Because of the wide variety of wildlife habitat in Edgefield County, there is a wide diversity in the species of wildlife. Soil characteristics, natural moisture conditions, and man's activities have influenced vegetative patterns. Habitat varies from the dry, upland ridges with sparse vegetation, to upland hardwood sites that produce a variety of food and cover for wildlife, to pine plantations. Bottom lands provide a different kind of habitat, and farm ponds, lakes, and streams supply favorable conditions for many species of fish. Wetlands attract a diversity of resident and migratory waterfowl.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 10, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be established, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flood hazard, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, the available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse, seeds, and cones. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and

associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

Richard G. Christopher III, area engineer, Soil Conservation Service, assisted in preparing this section.

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. The ratings are given in the following tables: Building site development, Sanitary facilities, Construction materials, and Water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations need to be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, (*6*) soil reaction, depth to bedrock, hardness of bedrock within 5 to 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to (1) evaluate the potential of areas for residential, commercial, industrial, and recreation uses; (2) make preliminary estimates of construction conditions; (3) evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; (4) evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; (5) plan detailed onsite investigations of soils and geology; (6) locate potential sources of gravel, sand, earthfill, and topsoil; (7) plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and (8) predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building site development

Table 11 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented pan, or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and the depth to the water table.

Dwellings and small commercial buildings are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high

water table, flooding, shrink-swell potential, and organic layers can cause the movement of footings. A high water table, depth to bedrock or to a cemented pan, large stones, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 to 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material, a base of gravel, crushed rock, or stabilized soil material, and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock or to a cemented pan, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary facilities

Table 12 shows the degree and the kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Table 12 also shows the suitability of the soils for use as daily cover for landfills. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock or to a cemented pan, and flooding affect absorption of the effluent. Large stones and bedrock or a cemented pan interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to effectively filter the effluent. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 12 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock or to a cemented pan, flooding, large stones, and content of organic matter.

Excessive seepage due to rapid permeability of the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground water pollution. Ease of excavation and revegetation needs to be considered.

The ratings in table 12 are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock or to a cemented pan, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium affect trench type landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area type sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to soil blowing.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

Construction materials

Table 13 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor or unsuited* as a source of roadfill, sand, gravel, and topsoil. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet, and the depth to the water table is less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and gravel are used in great quantities in many kinds of construction. The ratings in table 13 provide guidance as to where to look for probable sources and are based on the probability that soils in a given area contain sizable quantities of sand or gravel. A soil rated *good* or *fair* has a layer of suitable material at least 3 feet thick, the top of which is within a depth of 6 feet. Coarse fragments of soft bedrock material, such as shale and siltstone, are not considered to be sand and gravel. Fine grained soils are not suitable sources of sand and gravel.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable loamy material to a depth of at least 40 inches. They are free of stones and

cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water management

Table 14 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas, embankments, dikes, and levees. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and potential frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, or sulfur. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to reduce erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts or sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of

soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics. These results are reported in table 18.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classifications, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering index properties

Table 15 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under "Soil series and morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If a soil contains particles coarser than sand, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (*2*) and the system adopted by the American Association of State Highway and Transportation Officials (*1*).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as Pt. Soils exhibiting engineering properties of two groups can have a separate dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in table 18.

Rock fragments larger than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical and chemical properties

Table 16 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems,

septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 millimeters in diameter. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, greater than 9 percent, is sometimes used.

Soil and water features

Table 17 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt and water in swamps and marshes is not considered flooding.

Table 17 gives the frequency and duration of flooding and the time of year when flooding is most likely.

Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, common, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions; *common* that it is likely under normal conditions; *occasional* that it occurs on an average of once or less in 2 years; and *frequent* that it occurs on an average of more than once in 2 years. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, and *long* if more than 7 days. Probable dates are expressed in months; November-May, for example, means that flooding can occur during the period November through May.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and absence of distinctive horizons that form in soils that are not subject to flooding.

Also considered is local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The depth to a seasonal high water table applies to undrained soils. The estimates are based mainly on the evidence of a saturated zone, namely grayish colors or mottles in the soil. Indicated in table 17 are the depth to the seasonal high water table; the kind of water table—that is, perched, artesian, or apparent; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in table 17.

An apparent water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. An artesian water table is under hydrostatic head, generally beneath an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole. A perched water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Only saturated zones within a depth of about 6 feet are indicated. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. The first numeral in the range indicates how high the water rises above the surface. The second numeral indicates the depth below the surface.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. The rock is

specified as either rippable or hard. If the rock is rippable or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavations.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors creates a severe corrosion environment. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Engineering index test data

Table 18 shows laboratory test data for several pedons sampled at carefully selected sites in the survey area. The pedons are typical of the series and are described in the section "Soil series and morphology." The soil samples were tested by the South Carolina State Highway Department, Research and Materials Laboratory.

The testing methods generally are those of the American Association of State Highway and Transportation Officials (AASHTO) (*1*) or the American Society for Testing and Materials (ASTM) (*2*).

The tests and methods are: AASHTO classification—M 145 (AASHTO), D 3282 (ASTM); Unified classification—D 2487 (ASTM); grain-size distribution—T 88 (AASHTO), D2217 (ASTM); Liquid limit—T 89 (AASHTO), D 423 (ASTM); Plasticity index—T 90 (AASHTO), D 424 (ASTM).

Classification of the soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (*10*). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. In table 19, the soils of the survey area are classified according to the system. The categories are defined in the following paragraphs.

ORDER. Ten soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Entisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquent (*Aqu*, meaning water, plus *ent*, from Entisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplaquents (*Hapl*, meaning minimal horizonation, plus *aquent*, the suborder of the Entisols that have an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Haplaquents.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Mostly the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, nonacid, mesic Typic Haplaquents.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

Soil series and morphology

In this section, each soil series recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each series. The soil is compared with similar soils and with nearby soils of other series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the Soil Survey Manual (*9*). Many of the technical terms used in the descriptions are defined in Soil Taxonomy (*10*). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Soil maps for detailed planning."

Appling series

The Appling series consists of deep, well drained, moderately permeable clayey soils that formed in material weathered from granite, gneiss, and schist. These gently sloping and sloping soils are on broad irregularly shaped ridges of the Piedmont Uplands. Slope ranges from 2 to 10 percent.

Appling soils are closely associated with Cataula, Cecil, and Helena soils. Cataula soils have a dense brittle layer. Cecil soils have a Bt horizon of redder hue than Appling soils. Helena soils have gray mottles within the upper 24 inches of the Bt horizon.

Typical pedon of Appling sandy loam, 2 to 6 percent slopes, about 7 1/2 miles west of Edgefield and 1/4 mile east of Weststore Crossroads; 1,000 feet east of junction of South Carolina Highways 23 and 230, 100 feet south of South Carolina Highway 23:

Ap—0 to 7 inches; brown (10YR 5/3) sandy loam; weak fine granular structure; very friable; common fine roots; few pebbles of quartz; slightly acid; abrupt smooth boundary.

A2—7 to 10 inches; very pale brown (10YR 7/4) sandy loam; weak fine granular structure; very friable; common fine roots; few pebbles of quartz; slightly acid; abrupt smooth boundary.

B21t—10 to 21 inches; yellowish red (5YR 5/8) clay; moderate medium subangular blocky structure; firm, sticky, plastic; thin patchy distinct clay films on faces of peds; few fine roots; strongly acid; gradual smooth boundary.

B22t—21 to 31 inches; yellowish red (5YR 5/8) clay; common fine distinct reddish yellow (7.5YR 6/8) and few fine distinct red (2.5YR 5/8) mottles; moderate medium subangular blocky structure; firm, sticky, plastic; thin continuous distinct clay films on faces of peds; few fine flakes of mica; very strongly acid; gradual smooth boundary.

B23t—31 to 45 inches; mottled yellowish red (5YR 5/8), reddish yellow (7.5YR 6/8), red (2.5YR 4/8), and very pale brown (10YR 7/3) clay; moderate medium subangular blocky structure; firm, sticky, plastic; thin continuous distinct clay films on faces of peds; few fine flakes of mica; very strongly acid; gradual wavy boundary.

B3—45 to 56 inches; yellowish red (5YR 5/8) clay loam; common medium distinct red (2.5YR 4/6), common fine prominent white (10YR 8/2), and common fine distinct reddish yellow (7.5YR 7/6) mottles; weak medium subangular blocky structure; firm, sticky, plastic; few fine flakes of mica; very strongly acid; gradual wavy boundary.

C—56 to 72 inches; yellowish red (5YR 5/8) loam; common fine distinct reddish yellow (7.5YR 6/8), and few fine prominent white (10YR 8/2) mottles; massive, soft fragments of rock structure; friable, slightly sticky, slightly plastic; few fine flakes of mica; very strongly acid.

The solum ranges from 40 to 60 inches in thickness. Reaction is strongly acid or very strongly acid in all horizons except for the surface and subsurface layers in limed areas. Depth to bedrock is more than 60 inches.

The Ap or A1 horizon is 2 to 10 inches thick and has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4. It is sandy loam or loamy sand. The A2 horizon has hue of 10YR, value of 4 to 7, and chroma of 2 to 4. It is sandy loam or loamy sand 3 to 8 inches thick.

If present, the B1 horizon is as much as 6 inches thick. It has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 8. It is sandy clay loam or clay loam. The B2t horizon is 20 to 45 inches thick and has hue of 5YR to 10YR, value of 4 to 7, and chroma of 6 or 8. It is clay or sandy clay. The lower part has mottles in shades of brown, red, and yellow. The B3 horizon has hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8. It has mottles in shades of brown, red, and yellow. In some pedons, the B3 horizon is mottled in shades of brown, red, yellow, and gray. It is clay loam, sandy clay loam, or sandy clay 8 to 15 inches thick.

The C horizon is mottled in hue of 2.5YR to 10YR, value of 4 to 8, and chroma of 1 to 8. It has mottles in shades of brown, yellow, and red. It is sandy loam, loam, sandy clay loam, or clay loam.

Cataula series

The Cataula series consists of deep, well drained, slowly permeable clayey soils that formed in material weathered from granite, gneiss, or schist rock. These gently sloping to sloping soils are on narrow and broad ridges and side slopes adjacent to and at the heads of drainageways of the Piedmont Uplands. These soils have a dense brittle layer that restricts root penetration and water movement. Slope ranges from 2 to 10 percent.

Cataula soils are closely associated with Appling, Cecil, Davidson, Hiwassee, and Helena soils. Cataula soils have a dense brittle horizon, which those soils do not have.

Typical pedon of Cataula sandy loam, 2 to 6 percent slopes, about 5 1/2 miles south of Edgefield and about 8 1/2 miles west of Trenton; 1/3 mile west of junction of South Carolina secondary Highways 34 and 317; 1/3 mile east of Jeter Church; 325 feet north of South Carolina secondary Highway 317:

Ap—0 to 7 inches; brown (7.5YR 5/4) sandy loam; weak fine granular structure; very friable; common fine and medium roots; common pebbles of quartz; medium acid; abrupt smooth boundary.

B21t—7 to 17 inches; red (2.5YR 5/8) clay; moderate medium subangular blocky structure; firm, sticky, plastic; thin continuous distinct clay films on faces of peds; few fine roots; few pebbles of quartz; strongly acid; clear smooth boundary.

B22t—17 to 26 inches; red (2.5YR 4/8) clay; common medium faint red (10R 4/6) and common medium distinct reddish yellow (7.5YR 6/8) mottles; moderate medium subangular blocky structure; firm, sticky, plastic; thin continuous distinct clay films on faces of peds; strongly acid; abrupt smooth boundary.

Bx1—26 to 35 inches; red (2.5YR 5/8) and yellowish red (5YR 5/8) clay loam horizontal layers 1 inch to 4 inches thick separated by strong brown (7.5YR 5/8), reddish yellow (7.5YR 7/6), and light yellowish brown (10YR 6/4) clay horizontal layers 1 inch to 2 inches thick; light yellowish brown material extending vertically through the red layers at 4- to 10-inch intervals; weak thick platy structure parting to moderate fine angular blocky; red material is brittle, slightly sticky, slightly plastic; strong brown and light yellowish brown material is very firm, sticky, and plastic; thin continuous distinct clay films on horizontal and vertical faces of peds; very strongly acid; clear smooth boundary.

Bx2—35 to 53 inches; red (2.5YR 5/8) and dark red (10R 3/6) sandy clay loam horizontal layers 1 inch to 4 inches thick separated by reddish yellow (7.5YR 6/8) and yellowish brown (10YR 5/8) clay loam horizontal layers 1/2 inch to 2 inches thick; the red, dark red, reddish yellow, and yellowish brown layers have light gray (10YR 7/2) mottles; weak thick platy structure parting to moderate fine angular blocky; red material is brittle, slightly sticky, and slightly plastic; reddish yellow, yellowish brown, and light gray material is very firm, sticky, and plastic; thin continuous distinct clay films on horizontal and vertical faces of peds; very strongly acid; clear smooth boundary.

B3—53 to 70 inches; red (2.5YR 4/8) clay loam; common medium distinct reddish yellow (7.5YR 6/8), common fine prominent very pale brown (10YR 7/4), and few fine prominent light gray (10YR 7/2) mottles; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; very strongly acid.

The solum ranges from 48 to 70 inches or more in thickness. Reaction ranges from medium acid to very strongly acid throughout the profile except for the surface layer in limed areas. Depth to bedrock is more than 60 inches. Depth to the brittle layer ranges from 15 to 36 inches.

The A horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 or 4. It is 5 to 9 inches thick.

If present, the B1 horizon has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. It is sandy loam or sandy clay loam and as much as 8 inches thick. The B2t horizon is about 10 to 24 inches thick and has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. Some pedons have mottles in shades of yellow and brown. The Bx horizon is 14 to 36 inches thick and has horizontal, dense brittle red layers and firm brown layers. The red layers have hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 6 or 8. They are sandy clay loam or clay loam. The brown layers have hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 4 to 8. They are sandy clay loam or clay loam. Some pedons have mottles or streaks of gray which are clay loam or clay. The B3 horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8 and is mottled in shades of yellow, brown, and gray. It is clay loam or sandy clay loam that is 12 to more than 17 inches thick.

The C horizon commonly is mottled in shades of red, brown, yellow, and white. It is sandy loam, loam, or clay loam.

Cecil series

The Cecil series consists of deep, well drained, moderately permeable clayey soils that formed in material weathered from granite, gneiss, or schist. These gently sloping to moderately steep soils are on narrow and broad ridges, and side slopes at the heads of or adjacent to drainageways of the Piedmont Uplands. Slope ranges from 2 to 25 percent.

Cecil soils are closely associated with Appling, Cataula, Davidson, Helena, Hiwassee, and Pacolet soils. Appling soils have a Bt horizon of yellower hue than Cecil soils. Helena soils have gray mottles in the Bt horizon. Cataula soils have a dense brittle layer. Davidson and Hiwassee soils have value of less than 4 in the upper 40 inches of the profile. Pacolet soils have a solum less than 40 inches thick.

Typical pedon of Cecil sandy loam, 2 to 6 percent slopes, about 5 1/2 miles west-southwest of Edgefield and about 1 1/8 miles south-southeast of Antioch Church; 1,030 feet north-northwest of Cedar Grove Church; 55 feet south of telephone repair box on South Carolina secondary Highway 52 on west side of highway; 73 feet east-northeast from center of highway:

Ap—0 to 6 inches; brown (7.5YR 5/4) sandy loam; weak fine and medium granular structure; very friable; common fine and medium roots; few pebbles of quartz; strongly acid; abrupt smooth boundary.
B21t—6 to 21 inches; red (2.5YR 4/6) clay; moderate fine subangular blocky structure; firm, sticky, plastic; thin continuous prominent clay films on faces of peds; few fine roots; strongly acid; gradual smooth boundary.
B22t—21 to 48 inches; red (2.5YR 4/8) clay; moderate medium subangular blocky structure; firm, sticky, plastic; thin continuous prominent clay films on faces of peds; strongly acid; gradual smooth boundary.
B3—48 to 57 inches; red (2.5YR 4/8) clay loam; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; thin patchy faint clay films on faces of peds; common fine flakes of mica; strongly acid; gradual wavy boundary.
C—57 to 70 inches; red (2.5YR 5/8) loam; massive, soft fragments of rock structure; friable; slightly sticky, slightly plastic; many fine flakes of mica; very strongly acid.

The solum ranges from 47 to more than 60 inches in thickness. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas. Depth to bedrock is more than 60 inches.

The A horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 3 or 4. It is 4 to 10 inches thick. In eroded places the A horizon is sandy clay loam or clay loam 2 to 4 inches thick, and the hue ranges to 2.5YR.

If present, the B1 horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. It is sandy clay loam or clay loam as much as 6 inches thick. The B2t horizon has hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8. It is 26 to 50 inches thick. Some pedons are mottled in shades of brown and yellow. The B3 horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. Some pedons are mottled in shades of brown and yellow, and some pedons are mottled in shades of red, brown, yellow, and gray.

The C horizon has hue of 2.5YR or 5YR, value of 5 or 6, and chroma of 6 or 8 and is mottled in shades of red, brown, yellow, white, and gray. Some pedons are mottled in shades of red, brown, yellow, white, and gray. The C horizon is sandy loam, loam, or sandy clay loam.

Chewacla series

The Chewacla series consists of deep, somewhat poorly drained, moderately permeable loamy soils that formed in alluvium along flood plains of large streams. These nearly level soils are on long and narrow first bottoms. They are subject to common flooding for brief periods. Slope is less than 2 percent.

Chewacla soils are closely associated with Riverview, Enoree, and Toccoa soils. Enoree and Toccoa soils have less than 18 percent clay in the control section. Riverview soils do not have mottles of chroma of 2 or less within 20 inches of the surface.

Typical pedon of Chewacla loam, about 13 1/4 miles southwest of Edgefield and 7 1/4 miles south of Miller's Crossroads; 1 mile southwest of Piney Grove Church; 3/4 mile south of South Carolina secondary Highway 143; 350 feet east of Horn Creek; 200 feet north of Stevens Creek:

Ap—0 to 6 inches; brown (10YR 4/3) loam; weak fine granular structure; very friable; many fine roots; few fine flakes of mica; slightly acid; abrupt smooth boundary.
B21—6 to 16 inches; dark yellowish brown (10YR 4/4) loam; common fine prominent black (10YR 2/1) mottles; weak coarse subangular blocky structure; friable; few fine roots; few fine flakes of mica; few fine pores; slightly acid; clear smooth boundary.
B22—16 to 22 inches; mottled dark yellowish brown (10YR 4/4), pale brown (10YR 6/3), light brownish gray (10YR 6/2), and black (10YR 2/1) loam; weak coarse subangular blocky structure; friable; few fine roots; few fine flakes of mica; few fine pores; common dark concretions; neutral; clear smooth boundary.
B23—22 to 30 inches; light brownish gray (2.5Y 6/2) loam; common fine prominent brownish yellow (10YR 6/8), few fine distinct brown (10YR 4/3) mottles; weak medium subangular blocky structure; friable; few fine roots; few fine flakes of mica; few fine pores; few dark concretions; slightly acid; clear smooth boundary.
B24—30 to 41 inches; light brownish gray (2.5Y 6/2) silty clay loam; many coarse distinct brownish yellow (10YR 6/2) mottles; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine flakes of mica; few dark concretions; slightly acid; clear smooth boundary.
B25—41 to 59 inches; light gray (2.5Y 7/2) sandy clay loam; common medium prominent dark brown (10YR 3/3), and common fine prominent yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; firm; slightly sticky, slightly plastic; few fine flakes of mica; few dark concretions; neutral; clear smooth boundary.
B3—59 to 72 inches; mottled light brownish gray (2.5Y 6/2), dark yellowish brown (10YR 4/4), yellowish brown (10YR 5/8), and light gray (10YR 6/1) silt loam; weak medium subangular blocky structure; firm; few fine flakes of mica; common dark concretions; neutral.

The solum ranges from 42 to more than 72 inches in thickness. Depth to bedrock is more than 60 inches. Reaction ranges from neutral to strongly acid throughout the profile.

The A horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 or 3. It is loam or silt loam 5 to 9 inches thick.

If present, the B1 horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 6 and is mottled in shades of brown and yellow. It is loam or silt loam as much as 6 inches thick. The B2 horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 2 to 4 and is mottled in shades of black, brown, gray, yellow, and red. It is silty clay loam, sandy clay loam, or loam 26 to 56 inches thick. The B3 horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2 and is mottled in shades of yellow and brown. It is sandy loam, silt loam, loam, silty clay loam, or sandy clay loam 4 to more than 13 inches thick. Some pedons are mottled in shades of gray, brown, and yellow.

If present, the C horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 to 4 and is mottled in shades of gray, brown, and yellow. It is sand, loamy sand, or sandy loam.

Davidson series

The Davidson series consists of deep, well drained, moderately permeable clayey soils that formed in material weathered from hornblende gneiss, hornblende schist, or diorite. These soils are on narrow and broad ridges and side slopes adjacent to shallow drainageways of the Piedmont Uplands. Slope ranges from 2 to 10 percent.

Davidson soils are closely associated with Cataula, Cecil, Hiwassee, and Mecklenburg soils. Cataula, Cecil, and Mecklenburg soils have value of more than 4 in the upper 40 inches of the profile. In addition, Cataula soils have a dense brittle layer, and Mecklenburg soils have more than 35 percent base saturation. Hiwassee soils have more than 10 percent of weatherable minerals.

Typical pedon of Davidson sandy clay loam, 2 to 6 percent slopes, about 4 miles south of Edgefield, and about 4 miles west of Trenton; 1 1/2 miles northeast of Horn Creek Church and 125 feet northwest of county dirt road:

A1—0 to 5 inches; dusky red (10R 3/2) sandy clay loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; many fine and few medium and coarse roots; few fine pores; neutral; clear smooth boundary.

B21t—5 to 18 inches; dusky red (10R 3/3) clay; weak medium subangular blocky structure; friable, sticky, plastic; many fine and few medium and coarse roots; few fine pores; thin patchy distinct clay films on faces of peds; medium acid; gradual wavy boundary.

B22t—18 to 52 inches; dark red (10R 3/6) clay; moderate medium subangular blocky structure; firm, sticky, plastic; few fine, medium, and coarse roots; thick continuous prominent clay films on faces of peds; medium acid; gradual wavy boundary.

B23t—52 to 70 inches; dark red (2.5YR 3/6) clay; moderate medium subangular blocky structure; firm, sticky, plastic; few fine roots; thick continuous prominent clay films on faces of peds; medium acid; gradual wavy boundary.

The thickness of the solum and depth to bedrock are more than 72 inches. Reaction is medium acid or strongly acid throughout the profile except for the surface layer in limed areas.

The A horizon has hue of 10R to 5YR, value of 2 or 3, and chroma of 2 to 4. It is loam, sandy clay loam, or clay loam 4 to 7 inches thick.

The B2t horizon has hue of 10R or 2.5YR, value of 3, and chroma of 4 or 6. In some pedons, the value is 4 and the chroma is 6 below a depth of 40 inches. In some pedons, few to common mottles in shades of red, brown, and yellow are in the lower part of the B horizon. The B2t horizon is 50 to more than 79 inches thick.

Durham series

The Durham series consists of deep, well drained, moderately permeable loamy soils that formed mostly in material weathered from granite. These gently sloping soils are on irregularly shaped ridges of the Piedmont Uplands. Slope ranges from 2 to 6 percent.

Durham soils are closely associated with Appling, Cataula, Cecil, Helena, and Wateree soils. Appling, Cataula, Cecil, and Helena soils have a B2t horizon that is more than 35 percent clay. Wateree soils have less than 18 percent clay in the control section and do not have a Bt horizon.

Typical pedon of Durham loamy sand, 2 to 6 percent slopes, about 14.0 miles northwest of Edgefield; 325 feet south of intersection of U.S. Highway 378 and South Carolina Highway 67; 100 feet west of South Carolina secondary Highway 35:

Ap—0 to 5 inches; brown (10YR 4/3) loamy sand; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

A2—5 to 9 inches; pale brown (10YR 6/3) loamy sand; weak fine granular structure; very friable; few fine and medium roots; few fine pores; strongly acid; clear smooth boundary.

A3—9 to 15 inches; strong brown (7.5YR 5/8) sandy loam; weak fine subangular blocky structure; very friable; few fine roots; few fine pores; strongly acid; clear smooth boundary.

B21t—15 to 27 inches; yellowish red (5YR 5/8) and strong brown (7.5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; few fine flakes of mica; few fine pores; patchy faint clay films on faces of peds; few fine fragments of feldspar; very strongly acid; clear smooth boundary.

B22t—27 to 41 inches; yellowish brown (10YR 5/8) sandy clay loam; common coarse distinct strong

brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; few fine roots; few fine flakes of mica; few fine pores; patchy faint clay films on faces of peds; common fine fragments of feldspar; very strongly acid; clear smooth boundary.

B3—41 to 49 inches; brownish yellow (10YR 6/6) sandy clay loam; few coarse prominent yellowish red (5YR 5/8), and few medium faint yellow (10YR 7/8) mottles; weak medium subangular blocky structure; friable; common fine flakes of mica; common fine fragments of feldspar; very strongly acid; gradual wavy boundary.

C—49 to 60 inches; brownish yellow (10YR 6/6) loamy sand; common medium distinct reddish yellow (7.5YR 6/8), common fine prominent very dark brown (10YR 2/2), and few fine faint pink (5YR 7/3) mottles; massive, soft fragments of rock structure; friable; common fine flakes of mica; common fine fragments of feldspar; very strongly acid.

The solum ranges from 40 to 60 inches in thickness. Reaction is strongly acid or very strongly acid throughout except for the surface layer in limed areas. Depth to bedrock is more than 60 inches.

The Ap or A1 horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. It is loamy sand or sandy loam 4 to 10 inches thick. The A2 horizon has hue of 10YR, value of 4 to 6, and chroma of 3 or 4. It is loamy sand or sandy loam 2 to 8 inches thick. The A3 horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It is sandy loam about 3 to 12 inches thick.

If present, the B1 horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It is as much as 12 inches thick. The B2t horizon has hue of 5YR to 10YR, value of 5 or 6, and chroma of 6 or 8 and is mottled in shades of red, brown, and yellow. It is sandy clay loam or clay loam 23 to 40 inches thick. The B3 horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8 and is mottled in shades of red, brown, yellow, and gray. It is sandy clay loam or sandy loam 4 to 15 inches thick.

The C horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. It is loamy sand or sandy loam. Some pedons are mottled in shades of brown, yellow, gray, and white.

Enoree series

The Enoree series consists of poorly drained, moderately rapidly permeable loamy soils that formed in alluvium along the flood plains of small and medium streams. These soils are on nearly level, long, and narrow first bottoms of the Piedmont Uplands and upper Coastal Plain. They are subject to frequent flooding for brief periods. Slope is dominantly less than 1 percent but ranges to as much as 2 percent.

Enoree soils are closely associated with Chewacla, Riverview, and Toccoa soils. Chewacla and Riverview soils have more than 18 percent clay in the control section. Toccoa soils do not have chroma of 2 or less within 20 inches of the surface.

Typical pedon of Enoree sandy loam; about 5 1/2 miles south- southwest of Johnston and about 3 1/2 miles north-northeast of Trenton; 1 1/2 miles east of junction of South Carolina Highway 121 and South Carolina secondary Highway 149; 1 mile north-northeast of junction of South Carolina secondary Highways 72 and 207; 160 feet east of farm pond dam; 100 feet north of tributary to Tiger Creek:

A1—0 to 4 inches; brown (10YR 4/3) sandy loam; few fine prominent yellowish red (5YR 5/8) stains along root channels; weak fine granular structure; very friable; many fine roots, few medium and large roots; few fine flakes of mica; strongly acid; abrupt smooth boundary.

C1g—4 to 13 inches; mottled grayish brown (10YR 5/2), yellowish brown (10YR 5/4), and pale brown (10YR 6/3) sandy loam; few fine prominent yellowish red (5YR 5/8) stains along root channels; very friable; thin strata of loamy sand; common fine roots and few medium roots; few fine flakes of mica; strongly acid; gradual smooth boundary.

C2g—13 to 35 inches; grayish brown (10YR 5/2) sandy loam; common coarse distinct very pale brown (10YR 7/3) and few fine distinct strong brown (7.5YR 5/6) mottles; massive; very friable; thin strata of sand and loamy sand; few fine and medium roots; few fine flakes of mica; medium acid; gradual smooth boundary.

C3g—35 to 50 inches; gray (10YR 5/1) loamy sand; common medium distinct very pale brown (10YR 7/3) mottles; massive; very friable; thin strata of sand; few fine roots; few fine flakes of mica; medium acid; gradual smooth boundary.

C4g—50 to 65 inches; very dark gray (10YR 3/1) sandy loam; massive; very friable; few fine flakes of mica; medium acid.

These soils are neutral to strongly acid throughout the profile. Depth to bedrock is more than 60 inches.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 2 to 4. It is loamy sand, sandy loam, silt loam, or loam 4 to 10 inches thick.

The upper part of the C horizon has hue of 10YR, value of 4 to 6, and chroma of 1 to 4 and is mottled in shades of brown, gray, and yellow. It is sand, loamy sand, sandy loam, or loam. It has a subhorizon within a depth of 30 inches that has chroma of 3 or 4. The lower part of the C horizon has hue of 10YR, value of 3 to 6, and chroma of 1 or 2 and is mottled in shades of brown and yellow. It is sand, loamy sand, sandy loam, or silt loam. In the control section, content of clay ranges from 10 to 18 percent.

Eustis series

The Eustis series consists of deep, somewhat excessively drained, rapidly permeable sandy soils that formed in marine sediment. These nearly level soils are on broad ridgetops of the Coastal Plain. Slope ranges from 0 to 2 percent.

Eustis soils are closely associated with Troup, Norfolk, Wagram, Lakeland, and Orangeburg soils. Troup soils have a sandy A horizon more than 40 inches thick and a finer textured Bt horizon than Eustis soils. Wagram soils have a sandy A horizon 20 to 40 inches thick and a finer textured Bt horizon than Eustis soils. Lakeland soils are sandy to a depth of more than 72 inches, and they do not have a Bt horizon. Norfolk and Orangeburg soils have a finer textured Bt horizon.

Typical pedon of Eustis loamy sand, 0 to 2 percent slopes, about 12 1/4 miles south of Edgefield and about 1 1/2 miles north of Sweetwater Church; 1/2 mile northwest of junction of U.S. Highway 25 and county dirt road; 125 feet east of dirt road:

Ap—0 to 9 inches; dark reddish brown (5YR 3/3) loamy sand; weak fine granular structure; very friable; few fine roots; very strongly acid; abrupt smooth boundary.

B21t—9 to 56 inches; red (2.5YR 5/8) loamy sand; weak medium granular structure; very friable; clay bridges between sand grains; very strongly acid; clear wavy boundary.

B22t—56 to 74 inches; yellowish red (5YR 5/8) loamy sand; weak fine granular structure; very friable; clay bridges between sand grains; strongly acid.

The thickness of the solum and depth to bedrock are more than 60 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer and upper few inches of the subsoil in limed areas.

The A horizon has hue of 2.5YR or 5YR, value of 2 to 5, and chroma of 2 to 4. It is sand or loamy sand 6 to 9 inches thick.

The B2t horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 3 to 8. It is 47 to more than 64 inches thick. If present, the B3 horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8.

These soils are taxadjuncts to the Eustis series. The A horizon is thicker and of redder hue than is typical for the series. Use, management, and behavior are similar to the Eustis series.

Faceville series

The Faceville series consists of deep, well drained, moderately permeable clayey soils that formed in marine sediment. These nearly level to sloping soils are on broad and narrow ridges and side slopes adjacent to the drainageways of the Coastal Plain. Slope ranges from 0 to 10 percent.

Faceville soils are closely associated with Norfolk, Wagram, Rembert, Orangeburg, and Marlboro soils. Norfolk, Wagram, and Marlboro soils have a yellowish brown Bt horizon. Rembert soils have a gray Bt horizon. Orangeburg soils have less clay in the Bt horizon than Faceville soils.

Typical pedon of Faceville sandy loam, 2 to 6 percent slopes, about 6 1/2 miles east of Edgefield; about 3 miles southwest of Johnston; 1/2 mile southeast of South Carolina Highway 121; 125 feet northeast of field road; 350 feet west of farm pond:

Ap—0 to 6 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; few fine and medium roots; medium acid; abrupt smooth boundary.

B21t—6 to 31 inches; yellowish red (5YR 5/8) sandy clay; moderate medium subangular blocky structure; friable; few fine and medium roots; few dark concretions; patchy faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

B22t—31 to 55 inches; red (2.5YR 4/8) clay; few fine distinct yellowish red mottles; moderate medium subangular blocky structure; friable; few medium roots; few dark concretions; patchy faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

B23t—55 to 70 inches; red (2.5YR 4/8) sandy clay; common medium prominent strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; friable; few dark concretions; patchy faint clay films on faces of peds; strongly acid.

The solum ranges from 67 to more than 72 inches in thickness. Depth to bedrock is more than 72 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

The A horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4. It is loamy sand or sandy loam 5 to 9 inches thick. Some uncultivated pedons have an A2 horizon that has value of 5 or 6 and chroma of 3 or 4.

If present, the B1 horizon has hue of 5YR, value of 4 or 5, and chroma of 6 or 8. It is sandy loam or sandy clay loam as much as 8 inches thick. The B2t horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. The lower part of the B2t horizon commonly has few to common mottles in shades of brown and yellow. It is clay loam, sandy clay, or clay 55 to 65 inches or more thick. If present, the B3 horizon commonly is mottled in hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 6 or 8. It is sandy clay loam or sandy clay as much as 12 inches thick. Some pedons have hue of 2.5YR and few to common mottles in shades of red, brown, and yellow.

Georgeville series

The Georgeville series consists of deep, well drained, moderately permeable clayey soils that formed in material weathered from Carolina Slate. These gently sloping to sloping soils are on narrow and broad ridges, and side slopes adjacent to drainageways of the Piedmont Uplands. Slope ranges from 2 to 10 percent.

Georgeville soils are closely associated with Kirksey, Winnsboro, Goldston, Herndon, Nason, and Gundy soils. Kirksey, Herndon, Winnsboro, and Nason soils have a B2t horizon that has hue of 5YR or yellower. Goldston soils have more than 35 percent coarse fragments in the control section. Gundy soils have a base saturation of more than 35 percent.

Typical pedon of Georgeville silt loam, 2 to 6 percent slopes, about 8 miles northwest of Edgefield; 2/5 mile west of Brunson Crossroads; 340 feet south of South Carolina Highway 283; 150 feet east of field road:

Ap—0 to 6 inches; brown (7.5YR 5/4) silt loam; weak fine granular structure; very friable; many fine roots; few fine and medium pores; medium acid; abrupt smooth boundary.

B21t—6 to 28 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm; few fine roots; few fine pores; thick continuous prominent clay films on faces of peds; strongly acid; gradual wavy boundary.

B22t—28 to 42 inches; red (2.5YR 4/8) silty clay; common fine prominent reddish yellow (5YR 6/8) mottles; moderate medium subangular blocky structure; firm; few fine roots; few fine pores; thick continuous prominent clay films on faces of peds; strongly acid; gradual wavy boundary.

B23t—42 to 53 inches; red (2.5YR 5/8) silty clay loam; many medium prominent reddish yellow (5YR 6/8) and common medium prominent white (10YR 8/2) mottles; weak medium subangular blocky structure; firm; thin patchy faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

C—53 to 72 inches; light red (2.5YR 6/8) silt loam; many medium distinct reddish yellow (7.5YR 6/8) mottles; massive, soft fragments of rock structure; friable; very strongly acid.

The solum ranges from 44 to more than 60 inches in thickness. Depth to bedrock is more than 60 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

The A horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 8. It is silt loam or fine sandy loam 4 to 9 inches thick. In pedons where the soil is eroded, the A horizon has hue of 5YR, value of 4 or 5, and chroma of 6 or 8.

If present, the B1 horizon has hue of 5YR, value of 4 or 5, and chroma of 6 or 8. It is clay loam or silty clay loam as much as 5 inches thick. The B2t horizon has hue of 2.5YR, value of 4 or 5, and chroma of 6 or 8. It is clay, silty clay, or silty clay loam 30 to 51 inches thick. Some pedons are mottled in shades of red, brown, and yellow in the lower part. The B3 horizon, if present, has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. It is silty clay loam, clay loam, or silt loam 7 to 14 inches thick.

The C horizon has hue of 2.5YR or 5YR, value of 4 to 6, and chroma of 6 or 8 and is mottled in shades of red, brown, and yellow. In most pedons, it is silt loam but ranges to silty clay loam. Some pedons are mottled in shades of red, brown, and yellow.

Goldston series

The Goldston series consists of moderately deep, well drained, moderately rapidly permeable loamy soils that formed in material weathered from Carolina Slate. These sloping to steep soils are on slopes adjacent to streams of the Piedmont Uplands. Slope ranges from 6 to 40 percent.

Goldston soils are closely associated with Winnsboro, Georgeville, Herndon, Nason, and Gundy soils. These soils have less than 35 percent coarse fragments in the control section.

Typical pedon of Goldston slaty silt loam, 6 to 10 percent slopes, about 10 1/2 miles north of Edgefield; 1/2 mile northwest of junction of U.S. Highway 378 and South Carolina secondary Highway 21; 100 feet south of county dirt road; 150 feet west of Sleepy Creek:

A1—0 to 4 inches; brown (10YR 4/3) slaty silt loam; weak fine granular structure; very friable; brown (broken color) fragments of slate 1/4 inch to 2 inches make up 20 percent by volume; many fine and few medium roots; medium acid; abrupt smooth boundary.

B—4 to 15 inches; yellowish brown (10YR 5/4) very slaty silt loam; weak fine subangular blocky structure; friable; brown (broken color) fragments of slate 1/4 inch to 4 inches make up 40 percent by volume; common fine roots; medium acid; gradual wavy boundary.

C—15 to 36 inches; strong brown (7.5YR 5/6) very slaty silt loam; massive, soft fragments of rock structure; friable; light yellowish brown (broken color), fragments of slate stained with yellowish red; fragments of slate 1/2 inch to 6 inches make up 75 percent by volume; few fine roots between fragments of slate; strongly acid; gradual wavy boundary.

Cr—36 to 40 inches; weathered slaty saprolite that crushes to silt loam; vertical clayflows 1/2 inch wide at 10-inch or more intervals of silty clay loam.

The solum ranges from 10 to 20 inches in thickness. Depth to the Cr horizon ranges from 20 to 40 inches. Reaction ranges from medium acid to extremely acid

throughout the profile except for the surface layer in limed areas.

The A horizon has hue of 10YR, value of 4 to 6, and chroma of 2 or 3. It is 4 to 7 inches thick.

The B horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8. It is very slaty silt loam or slaty loam 4 to 15 inches thick. Some pedons are mottled in shades of brown, yellow, and olive. An argillic horizon of slaty silt loam or slaty silty clay loam 3 to 8 inches thick occurs in about 40 percent of each pedon.

The C horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 or 6. It is very slaty silt loam. Some pedons are mottled in yellowish red, and some pedons are mottled in shades of brown, yellow, red, and olive.

These soils are taxadjuncts to the Goldston series. The solum is 10 to 20 inches thick over highly weathered slaty saprolite, and the depth to paralithic material or bedrock is more than 20 inches. Use, management, and behavior are similar to the Goldston series.

Gundy series

The Gundy series consists of deep, well drained, moderately permeable clayey soils that formed in material mostly weathered from Carolina Slate. These sloping to steep soils are on side slopes adjacent to streams of the Piedmont Uplands. Slope ranges from 6 to 40 percent.

Gundy soils are closely associated with Winnsboro, Georgeville, Goldston, Herndon, Kirksey, Mecklenburg, and Nason soils. Georgeville, Goldston, Herndon, Kirksey, and Nason soils have a base saturation of less than 35 percent. Winnsboro and Mecklenburg soils have slower permeability than Gundy soils.

Typical pedon of Gundy silt loam, 10 to 15 percent slopes, about 13.0 miles west of Edgefield; 2 3/4 miles west of Red Hill Church; 3/5 mile east of Stevens Creek, 150 feet north of Buzzard Branch:

A1—0 to 4 inches; brown (10YR 5/3) silt loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine roots and few medium roots; pebbles of quartz and fragments of slate, 1 to 4 inches, make up about 5 percent by volume; medium acid; abrupt smooth boundary.

B21t—4 to 20 inches; red (2.5YR 4/8) clay; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; common fine roots and few medium roots; thin continuous prominent clay films on faces of peds; pebbles of quartz and fragments of slate, 1 to 4 inches, make up about 2 percent by volume; medium acid; gradual wavy boundary.

B22t—20 to 27 inches; red (2.5YR 4/8) clay loam; few medium distinct reddish yellow (5YR 6/8) mottles; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; thick continuous prominent clay films on faces of peds; fragments of slate, 1 to 4 inches, make up about 3 percent by volume; medium acid; gradual wavy boundary.

B3—27 to 32 inches; red (2.5YR 5/8) clay loam; common medium distinct reddish yellow (5YR 6/8) mottles; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; fragments of slate, 1 to 4 inches, make up about 15 percent by volume; medium acid; gradual wavy boundary.

C—32 to 52 inches; yellowish red (5YR 5/8) slaty clay loam; few medium distinct brownish yellow (10YR 6/6) mottles; massive; friable; few fine roots in pockets of material from B horizon; fragments of slate, 1 to more than 4 inches, make up about 50 percent by volume; few pockets of red clay loam; medium acid; gradual wavy boundary.

Cr—52 to 60 inches; pale olive (5Y 6/4) slate rock material that crushes to slaty loam; few medium faint light olive gray (5Y 6/2) mottles; massive; hard; strongly acid.

The solum ranges from 25 to 40 inches in thickness. Depth to bedrock ranges from 40 to more than 60 inches. Reaction ranges from slightly acid to strongly acid throughout the profile except for the surface layer in limed areas. One- to 4-inch fragments of slate range from about 2 to 30 percent by volume in the A horizon and from 2 to 15 percent by volume in the B horizon. One- to more than 4-inch fragments of slate range from about 20 to about 50 percent by volume in the C horizon.

The A horizon has hue of 7.5YR to 10YR, value of 4 or 5, and chroma of 3 or 4. It is silt loam, slaty silt loam, fine sandy loam, or slaty fine sandy loam, 4 to 6 inches thick.

If present, the B1 horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 4 to 8. It is silt loam, silty clay loam, or sandy clay loam as much as 6 inches thick. The B2t horizon has hue of 2.5YR, value of 4 or 5, and chroma of 6 or 8. It is clay or silty clay 15 to 27 inches thick. Some pedons have mottles in shades of yellow and brown. The B3 horizon has hue of 2.5YR, value of 4 or 5, and chroma of 6 or 8 mottled in shades of red, yellow, and brown. It is clay loam or silty clay loam 4 to 12 inches thick.

The C horizon has hue of 2.5YR to 5Y, value of 4 to 6, and chroma of 2 to 8 and is mottled in shades of red, yellow, gray, and brown. Pedons that have chroma of 2 have hue of 2.5YR. In some pedons, there is a Cr horizon of Carolina Slate or fine grained schist 40 to more than 60 inches from the surface that crushes to slaty loam or slaty silt loam.

Helena series

The Helena series consists of deep, moderately well drained, slowly permeable clayey soils that formed in material weathered from aplitic granite or granite gneiss.

These gently sloping to sloping soils are on irregularly shaped ridges and side slopes adjacent to and at heads of drainageways of the Piedmont Uplands. Slope ranges from 2 to 10 percent.

Helena soils are closely associated with Appling, Cataula, Cecil, Winnsboro, and Mecklenburg soils. Appling, Cataula, and Cecil soils do not have mottles of chroma of 2 or less in the upper part of the Bt horizon. Winnsboro and Mecklenburg soils have a base saturation of more than 35 percent.

Typical pedon of Helena sandy loam, 2 to 6 percent slopes, about 3 1/4 miles southeast of Edgefield and 2 1/2 miles northwest of Trenton; 3/4 mile southeast of intersection of South Carolina secondary Highways 40 and 90; 90 feet north of county dirt road:

A1—0 to 3 inches; very dark grayish brown (10YR 3/2) sandy loam; weak fine granular structure; very friable; many fine and few medium roots; common pebbles of quartz (1/4 to 1 inch long and 1/8 to 1/2 inch thick); medium acid; abrupt smooth boundary.

A2—3 to 13 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine granular structure; very friable; common fine and few medium roots; few pebbles of quartz (1/4 to 1 inch long and 1/8 to 1/2 inch thick); few small pores; strongly acid; abrupt smooth boundary.

B21t—13 to 22 inches; yellow (10YR 7/8) clay; moderate medium angular blocky structure; firm, sticky, plastic; thin continuous distinct clay films on faces of peds; few fine and medium roots; few fine flakes of mica; strongly acid; gradual wavy boundary.

B22t—22 to 33 inches; yellow (10YR 7/8) clay; common coarse prominent light gray (10YR 7/2) and few coarse prominent red (2.5YR 5/8) mottles; moderate medium angular blocky structure; firm, sticky, plastic; thin continuous distinct clay films on faces of peds; few fine roots; few fine and medium flakes of mica; strongly acid; diffuse irregular boundary.

B3—33 to 46 inches; mottled yellow (10YR 7/8), white (10YR 8/2), red (2.5YR 5/8), and light gray (10YR 7/2) clay loam; weak medium angular blocky structure; firm, slightly sticky, slightly plastic; thin patchy faint clay films on faces of some peds; few fine and medium flakes of mica; few pebbles of feldspar; strongly acid; gradual wavy boundary.

C—46 to 61 inches; mottled brownish yellow (10YR 6/8), white (10YR 8/2), red (2.5YR 5/8), and light gray (10YR 7/2) sandy clay loam; massive, soft fragments of rock structure; friable; common fine and medium flakes of mica; strongly acid.

The solum ranges from 45 to 55 inches in thickness. Depth to bedrock is more than 48 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

The A1 horizon has hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 2 to 4. It is sandy loam or loamy sand 5 to 13 inches thick. Some pedons have an Ap or A2 horizon that is similar in color to that of the A1 horizon.

If present, the B1 horizon has hue of 10YR, value of 6, and chroma of 4 to 6. It is sandy loam or sandy clay loam as much as 8 inches thick. The B2t horizon has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 6 or 8 and is mottled in shades of red, brown, yellow, and gray. It is clay, sandy clay, or clay loam 20 to 39 inches thick. The B3 horizon is mottled in hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 1 to 8. It is sandy clay loam or clay loam 6 to 15 inches thick.

The C horizon is mottled in hue of 5YR to 10YR, value of 5 to 8, and chroma of 1 to 8. It is sandy loam, loam, or sandy clay loam.

Herndon series

The Herndon series consists of deep, well drained, moderately permeable clayey soils that formed in material weathered from Carolina Slate. These gently sloping to sloping soils are on narrow and broad ridges and side slopes adjacent to drainageways of the Piedmont Uplands. Slope ranges from 2 to 10 percent.

Herndon soils are closely associated with Winnsboro, Georgeville, Goldston, Kirksey, Mecklenburg, Nason, and Gundy soils. Winnsboro and Mecklenburg soils have a base saturation of more than 35 percent. Georgeville and Gundy soils have a Bt horizon of redder hue than Herndon soils. Goldston soils have more than 35 percent coarse fragments in the control section. Kirksey soils have mottles of chroma of 2 or less in the Bt horizon. Nason soils are of mixed mineralogy.

Typical pedon of Herndon very fine sandy loam, 2 to 6 percent slopes, 7 1/2 miles northeast of Edgefield and about 3.0 miles northwest of Johnston; 375 feet south of junction of South Carolina secondary Highways 21 and 18; 50 feet west of South Carolina secondary Highway 18:

Ap—0 to 6 inches; brown (10YR 5/3) very fine sandy loam; weak fine granular structure; very friable; common fine roots; few fine pebbles of quartz; medium acid; abrupt smooth boundary.

B21t—6 to 20 inches; yellowish red (5YR 5/8) clay; moderate medium subangular blocky structure; firm, slightly plastic, slightly sticky; thin patchy faint clay films on faces of peds; few fine roots; few medium pores; strongly acid; clear smooth boundary.

B22t—20 to 35 inches; yellowish brown (10YR 5/8) clay loam; common medium distinct yellow (10YR 7/6) and few medium prominent red (2.5YR 5/8) mottles; moderate medium subangular blocky structure; firm, slightly plastic, slightly sticky; thin patchy faint clay films on faces of peds; few fine roots; few medium pores; strongly acid; clear smooth boundary.

B3—35 to 55 inches; mottled yellow (10YR 7/8), light red (2.5YR 6/8), yellowish brown (10YR 5/8), and very pale brown (10YR 7/4) clay loam; weak

medium subangular blocky structure; firm; thin patchy faint clay films on faces of some peds; strongly acid; gradual wavy boundary.

C—55 to 70 inches; yellow (10YR 7/6) silt loam; common medium prominent reddish yellow (5YR 6/8), common medium distinct very pale brown (10YR 8/4), and few medium distinct strong brown (7.5YR 5/6) mottles; massive, soft fragments of rock structure; friable; strongly acid.

The solum ranges from 41 to 63 inches in thickness. Depth to bedrock is more than 60 inches. Reaction ranges from strongly acid to extremely acid throughout the profile except for the surface layer in limed areas.

The A horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4. It is very fine sandy loam or silt loam 5 to 11 inches thick.

If present, the B1 horizon has hue of 10YR, value of 5 to 7, and chroma of 4 or 6. It is silty clay loam as much as 5 inches thick. The B2t horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 6 or 8 and is mottled in shades of red, yellow, and brown. The B2t horizon is clay, silty clay, or silty clay loam 21 to 42 inches thick. It has 35 to 50 percent clay and more than 30 percent silt or more than 40 percent silt and very fine sand. The B3 horizon commonly is mottled in hue of 5YR to 10YR, value of 5 to 8, and chroma of 2 to 8. It commonly is silt loam or silty clay loam but ranges to clay loam in some pedons. It is 4 to 20 inches thick. Some pedons have hue of 5YR or 7.5YR, value of 5 or 6, and chroma of 8 and are mottled in shades of red, yellow, and white.

The C horizon has hue of 5YR to 10YR, value of 5 to 7, and chroma of 3 to 8 and is mottled in shades of red, brown, yellow, and white. It commonly is silt loam or loam, but ranges to silty clay loam in some pedons. Some pedons are mottled in hue of 5YR to 10YR, value of 5 to 8, and chroma of 2 to 8.

Hiwassee series

The Hiwassee series consists of deep, well drained, moderately permeable clayey soils that formed in material weathered from dark gneiss or schist. These gently sloping to strongly sloping soils are on narrow to broad ridges and side slopes adjacent to drainageways of the Piedmont Uplands. Slope ranges from 2 to 15 percent.

Hiwassee soils are closely associated with Cataula, Cecil, Davidson, and Mecklenburg soils. Cataula soils have a dense brittle layer. Cecil soils have a red Bt horizon. Davidson soils have less than 10 percent weatherable minerals. Mecklenburg soils have a base saturation of more than 35 percent.

Typical pedon of Hiwassee sandy loam, 2 to 6 percent slopes, about 16 1/2 miles south-southwest of Edgefield and about 4 3/4 miles west-southwest of Sweetwater Church; 3/4 mile west of junction of South Carolina Highway 230 and South Carolina secondary Highway 178; about 3/10 mile south of Edgefield County sewage treatment plant on dirt road; 194 feet south-southwest of aluminum pasture gate; 59 feet north-northwest of pasture field road, in a wooded area:

Ap—0 to 5 inches; dark reddish brown (5YR 3/4) sandy loam; weak fine granular structure; very friable; many fine roots; few pebbles of quartz; neutral; abrupt smooth boundary.

B21t—5 to 15 inches; dark red (10R 3/6) clay; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; thick continuous distinct clay films on faces of peds; few fine roots; medium acid; gradual smooth boundary.

B22t—15 to 43 inches; dark red (2.5YR 3/6) clay; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; thick continuous distinct clay films on faces of peds; medium acid; gradual smooth boundary.

B23t—43 to 52 inches; red (10R 4/6) clay; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; thick continuous distinct clay films on faces of peds; medium acid; gradual smooth boundary.

B31—52 to 64 inches; red (2.5YR 4/6) clay loam; common fine prominent reddish yellow (7.5YR 6/8), and few medium distinct dark red (10R 3/6) mottles; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; thin patchy distinct clay films on faces of peds; medium acid; gradual smooth boundary.

B32—64 to 70 inches; red (2.5YR 4/8) clay loam; many coarse prominent reddish yellow (7.5YR 6/8), few coarse distinct dark red (2.5YR 3/6), few medium distinct very pale brown (10YR 7/3), and few fine prominent white (10YR 8/1) mottles; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; thin patchy distinct clay films on faces of peds; medium acid.

The solum ranges from 50 to more than 70 inches in thickness. Depth to bedrock is more than 70 inches. Reaction is slightly acid to very strongly acid throughout the profile except for the surface layer in limed areas.

The A horizon has hue of 2.5YR or 5YR, value of 2 or 3, and chroma of 3 or 4. It is sandy loam or loam 4 to 8 inches thick. In eroded areas, the A horizon has hue of 10R to 5YR, value of 2 or 3, and chroma of 2 to 6. It is clay loam or sandy clay loam 1 inch to 5 inches thick.

If present, the B1 horizon has hue of 10R or 2.5YR, value of 2 or 3, and chroma of 3 or 4. It is sandy clay loam or clay loam as much as 6 inches thick. The B2t horizon has hue of 10R or 2.5YR, value of 3, and chroma of 4 or 6. It is 28 to 53 inches thick. In some pedons the lower part of the B2t horizon is mottled in shades of yellow, brown, or red. Some pedons have value of 4 or 5 and chroma of 6 or 8 below a depth of

40 inches. The B3 horizon has hue of 10R or 2.5YR, value of 3 to 5, and chroma of 4 to 8. It is clay loam or sandy clay loam 10 to more than 25 inches thick. Some pedons are mottled in shades of red, yellow, or brown.

The C horizon has hue of 10R or 2.5YR, value of 3 to 5, and chroma of 6 or 8. It is sandy loam, loam, sandy clay loam, or clay loam. The C horizon commonly is mottled in shades of red, brown, yellow, or white.

Kirksey series

The Kirksey series consists of deep, moderately well drained, moderately slowly permeable silty soils that formed in material weathered from Carolina Slate. These gently sloping soils are on narrow and broad ridges and in areas adjacent to shallow drainageways of the Piedmont Uplands. Slope ranges from 2 to 6 percent.

Kirksey soils are closely associated with Winnsboro, Georgeville, Goldston, Herndon, Nason, and Gundy soils. Georgeville, Winnsboro, Herndon, Nason, and Gundy soils have more than 35 percent clay in the control section. Goldston soils have more than 35 percent coarse fragments in the control section.

Typical pedon of Kirksey silt loam, 2 to 6 percent slopes, 13 miles north of Edgefield and 2 2/5 miles north of junction of U.S. Highway 378 and South Carolina Highway 430; 3/5 mile northeast of junction of South Carolina secondary Highway 24 and dirt road; 9/10 mile east of junction of dirt roads; 75 feet north of dirt road; 12 feet west of a large water oak:

A1—0 to 6 inches; brown (10YR 5/3) silt loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; many fine roots and few medium roots; few pebbles of quartz; medium acid; gradual smooth boundary.

B1—6 to 13 inches; light yellowish brown (10YR 6/4) silt loam; weak fine subangular blocky structure; very friable, slightly sticky, slightly plastic; common fine roots and few medium roots; few pebbles of quartz; medium acid; clear smooth boundary.

B21t—13 to 24 inches; brownish yellow (10YR 6/6) silt loam; few fine distinct very pale brown (10YR 8/4) mottles; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; thin discontinuous faint clay films on faces of peds; few fine roots; few pebbles of quartz; strongly acid; clear wavy boundary.

B22t—24 to 31 inches; yellowish brown (10YR 5/4) silty clay loam; common medium distinct reddish yellow (7.5YR 6/8), few medium distinct light gray (10YR 7/1), and few medium distinct white (10YR 8/2) mottles; moderate medium angular blocky and subangular blocky structure; firm, sticky, and plastic; thick continuous prominent clay films on faces of peds; few fine roots; strongly acid; clear wavy boundary.

B3—31 to 36 inches; brownish yellow (10YR 6/8) silty clay loam; common medium distinct gray (10YR 5/1), few medium distinct reddish yellow (7.5YR 6/8), and few medium distinct white (10YR 8/1) mottles; weak medium subangular blocky structure; firm, sticky, and plastic; few fine roots; 1/2- to 1/4-inch fragments of Carolina Slate make up about 10 percent of the volume; strongly acid; gradual wavy boundary.

C—36 to 42 inches; yellow (10YR 7/8) silt loam; few medium distinct white (10YR 8/1), and gray (10YR 6/1) mottles; massive, soft fragments of rock structure; friable, nonsticky, nonplastic; 1/2- to 6-inch fragments of Carolina Slate make up about 15 percent of the volume; few fine roots; strongly acid; gradual wavy boundary.

Cr—42 to 50 inches; weathered Carolina Slate saprolite that crushes to silt loam.

R—50 inches; rippable Carolina Slate rock.

The solum ranges from 30 to 40 inches in thickness. Depth to rippable bedrock ranges from 47 to about 60 inches. Reaction ranges from strongly acid to extremely acid throughout the profile except for the surface layer in limed areas.

The A horizon has hue of 10YR, value of 4 to 7, and chroma of 2 to 4. It is silt loam or very fine sandy loam 4 to 10 inches thick.

The B1 horizon, which is present in most pedons, has hue of 10YR, value of 5 or 6, and chroma of 4 to 8. It is silt loam or silty clay loam as much as 8 inches thick. The B2t horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8 and is commonly mottled in shades of red, yellow, brown, or gray. It is silty clay loam or clay loam 11 to 24 inches thick. The B3 horizon generally is mottled in hue of 2.5YR to 2.5Y, value of 5 to 8, and chroma of 1 to 8. It is silt loam or silty clay loam 5 to 14 inches thick. Some pedons have hue of 10YR, value of 6, and chroma of 6 and are mottled in shades of red, brown, yellow, or gray.

The C horizon generally is mottled in hue of 2.5YR to 5Y, value of 5 to 8, and chroma of 1 to 8. It is sandy loam or silt loam. Some pedons have hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 3 to 6 and are mottled in shades of gray, yellow, and brown.

Lakeland series

The Lakeland series consists of deep, excessively drained, very rapidly permeable sandy soils that formed in marine sediment. These nearly level to moderately steep soils are on broad ridges and side slopes adjacent to streams of the Coastal Plain. Slope ranges from 0 to 25 percent.

Lakeland soils are closely associated with Norfolk, Faceville, Wagram, Rembert, Orangeburg, Troup, and Marlboro soils. These soils have a loamy or clayey subsoil.

Typical pedon of Lakeland sand, 0 to 6 percent slopes, about 9 miles southeast of Edgefield and about

10 1/2 miles southwest of Johnston; 1 1/2 miles east of U.S. Highway 25; 2 1/2 miles southwest of South Carolina Highway 19; 50 feet southwest of dirt road:

Ap—0 to 8 inches; brown (10YR 4/3) sand; single grain; loose; common fine and medium roots; strongly acid; clear smooth boundary.
C1—8 to 21 inches; yellowish brown (10YR 5/4) sand; single grain; loose, few medium roots; strongly acid; gradual wavy boundary.
C2—21 to 41 inches; strong brown (7.5YR 5/8) sand; single grain; loose; strongly acid; gradual wavy boundary.
C3—41 to 55 inches; yellowish brown (10YR 5/8) sand; single grain; loose; strongly acid; gradual wavy boundary.
C4—55 to 82 inches; brownish yellow (10YR 6/6) sand; common coarse distinct white (10YR 8/1) uncoated sand grains; single grain; loose; strongly acid.

The sand is more than 80 inches thick. Reaction is medium acid or very strongly acid throughout the profile except for the surface layer in areas that have been limed.

The Ap horizon has hue of 10YR, value of 4, and chroma of 2 or 3. If present, the A1 horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 or 3. It is 2 to 9 inches thick.

The C horizon has hue of 5YR to 10YR, value of 5 to 7, and chroma of 3 to 8. Some pedons are mottled in the lower part in shades of white, yellow, brown, or red.

Marlboro series

The Marlboro series consists of deep, well drained, moderately permeable clayey soils that formed in marine sediment. These soils are on broad, nearly level to gently sloping areas of the Coastal Plain. Slope ranges from 0 to 6 percent.

Marlboro soils are closely associated with Norfolk, Faceville, Wagram, Rembert, and Orangeburg soils. Norfolk and Wagram soils have less than 35 percent clay in the control section. In addition, Wagram soils have an arenic surface layer. Faceville and Orangeburg soils are of redder hue than Marlboro soils. In addition, Orangeburg soils have less than 35 percent clay in the control section. Rembert soils are in lower lying areas than Marlboro soils and have a gray B2t horizon.

Typical pedon of Marlboro sandy loam, 0 to 2 percent slopes, about 6 2/5 miles east of Edgefield and 2 1/2 miles southwest of Johnston; 600 feet southwest of intersection of South Carolina secondary Highway 73 and South Carolina Highway 221; 50 feet east of South Carolina Highway 221:

Ap—0 to 8 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; common fine roots; few rough-surfaced very hard sesquioxide nodules; medium acid; abrupt smooth boundary.
B21t—8 to 27 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; friable, slightly plastic, sticky; few fine roots; few rough-surfaced very hard sesquioxide nodules; thin continuous distinct clay films on faces of peds; strongly acid; gradual wavy boundary.
B22t—27 to 48 inches; yellowish brown (10YR 5/6) clay; common medium prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; friable, slightly plastic, sticky; few nodules of plinthite; thin continuous distinct clay films on faces of peds; strongly acid; gradual wavy boundary.
B23t—48 to 65 inches; brownish yellow (10YR 6/8) clay; few medium distinct red (2.5YR 5/8) and pale brown (10YR 6/3) mottles; moderate medium subangular blocky structure; friable, slightly plastic, sticky; thin patchy distinct clay films on faces of peds; few nodules of plinthite; very strongly acid; gradual wavy boundary.
B3—65 to 72 inches; red (2.5YR 5/8) clay; common medium prominent strong brown (7.5YR 5/8) and few fine distinct reddish yellow mottles; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; very strongly acid.

The thickness of the solum and depth to bedrock are more than 60 inches. Unless limed, the A horizon is medium acid to strongly acid. The B horizon is slightly acid to strongly acid in the upper part and medium acid to very strongly acid in the lower part.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3. It is 5 to 9 inches thick.

The B2t horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8 and is mottled in shades of red, brown, or yellow. It ranges from 57 to more than 66 inches in thickness. Nodules of plinthite in the B2t horizon are as much as 4 percent. The B3 horizon has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 6 or 8 and is mottled in shades of brown or yellow. It is clay, clay loam, or sandy clay loam 4 to 12 inches thick.

Mecklenburg series

The Mecklenburg series consists of well drained, slowly permeable clayey soils that formed in material weathered from diorite, gabbro, hornblende schist, or mixed acid and basic rocks. These gently sloping and sloping soils are on narrow, medium, and broad ridges and on side slopes of the Piedmont Uplands. Slope ranges from 2 to 10 percent.

Mecklenburg soils are closely associated with Cecil, Davidson, Winnsboro, Hiwassee, Georgeville, and Wilkes soils. Cecil, Hiwassee, Davidson, and Georgeville soils have a base saturation of less than 35 percent. In addition, Hiwassee and Davidson soils have value of less than 4 throughout the profile. Winnsboro soils have hue of 7.5YR or yellower in the argillic horizon. Wilkes soils have a thin argillic horizon and bedrock at a shallower depth than Mecklenburg soils.

Typical pedon of Mecklenburg sandy loam, 2 to 6 percent slopes, about 16 1/2 miles south-southwest of Edgefield and about 3 1/2 miles west-southwest of Sweetwater Church; 1 1/4 miles east-northeast of intersection of South Carolina Highway 230 and South Carolina secondary Highway 582; about 1/5 mile east of South Carolina secondary Highway 582 crossing of Fox Creek; 125 feet north of South Carolina secondary Highway 582; 30 feet east from center of Lake Forest Estates Road 344:

A1—0 to 3 inches; brown (7.5YR 5/2) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and medium roots; few pebbles of quartz; slightly acid; clear smooth boundary.

A2—3 to 8 inches; dark brown (7.5YR 4/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine roots and few medium roots; few pebbles of quartz; few dark concretions; slightly acid; clear smooth boundary.

B21t—8 to 16 inches; yellowish red (5YR 4/6) clay; weak fine subangular blocky structure; firm, sticky, plastic; thin patchy faint clay films on faces of peds; common fine roots and few medium roots; few pebbles of quartz; few dark concretions; slightly acid; clear smooth boundary.

B22t—16 to 23 inches; yellowish red (5YR 5/8) clay; few fine distinct strong brown (7.5YR 5/8) mottles; moderate fine subangular blocky structure; firm, sticky, plastic; thick continuous distinct clay films on faces of peds; few fine roots; few dark concretions; medium acid; clear wavy boundary.

B23t—23 to 30 inches; yellowish brown (10YR 5/6) clay; few fine distinct light brownish gray (10YR 6/2) mottles; moderate fine subangular blocky structure; firm, very sticky, very plastic; thick continuous distinct clay films on faces of peds; few fine roots; few pebbles of quartz; slightly acid; clear wavy boundary.

B24t—30 to 34 inches; brownish yellow (10YR 6/6) clay; common fine distinct light brownish gray (10YR 6/2), and few fine distinct strong brown (7.5YR 5/8) mottles; weak fine subangular blocky structure; firm, sticky, plastic; thin patchy faint clay films on faces of peds; few fine roots; few weathered fragments of schist rock; slightly acid; clear wavy boundary.

C—34 to 41 inches; finely mottled brownish yellow (10YR 6/6), yellow (10YR 7/6), light brownish gray (10YR 6/2), and gray (10YR 5/1) clay loam; massive, soft fragments of rock structure; firm, slightly sticky, slightly plastic; few fine roots; common weathered fragments of schist rock; slightly acid; gradual wavy boundary.

Cr—41 to 50 inches; saprolite of fine grained schist that crushes to sandy loam.

R—50 inches; fine grained schist rock.

The solum ranges from 24 to 40 inches in thickness. Depth to bedrock is more than 48 inches. Reaction is medium acid to neutral throughout the solum.

The A1, Ap, or A2 horizon has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 2 to 4. It is sandy loam or loam 4 to 8 inches thick.

The B2t horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. It is 18 to 32 inches thick. Some pedons have hue of 10YR, value of 5 or 6, and chroma of 6 beginning at a depth of 20 inches or more. Some pedons have mottles in shades of red, brown, yellow, and gray; the gray mottles are more than 10 inches below the top of the B2t horizon. If present, the B3 horizon has hue of 5YR to 10YR, value of 5 or 6, and chroma of 6 or 8 and is mottled in shades of red, brown, yellow, and gray. It is as much as 16 inches thick.

The C horizon has hue of 5YR to 2.5Y, value of 5 or 6, and chroma of 4 or 6. It is clay loam, loam, or sandy loam. The Cr horizon, which is present in most pedons, is mottled in shades of black, brown, yellow, gray, or white. It is weathered rock material that crushes to sandy loam, loam, or sandy clay loam.

Nason series

The Nason series consists of deep, well drained, moderately permeable soils that formed in clayey material weathered from Carolina Slate. These strongly sloping to moderately steep soils are on side slopes of the Piedmont Uplands. Slope ranges from 10 to 25 percent.

Nason soils are closely associated with Gundy, Georgeville, Goldston, Herndon, and Winnsboro soils. Georgeville and Gundy soils have a B2t horizon of redder hue than Nason soils. Goldston soils have more than 35 percent coarse fragments in the control section. Herndon soils have kaolinitic mineralogy. Winnsboro soils have a base saturation of more than 60 percent.

Typical pedon of Nason loam, 15 to 25 percent slopes, about 3 miles northwest of Edgefield; about 4/5 mile south of Reynolds Memorial Home; 3/10 mile north of Beaverdam Creek; 75 feet south of dirt road:

A1—0 to 4 inches; light yellowish brown (10YR 6/4) loam; weak fine granular structure; very friable; many fine roots and few medium roots; few fine and medium pores; few pebbles of quartz; medium acid; abrupt smooth boundary.

B21t—4 to 13 inches; yellowish red (5YR 5/6) clay; moderate medium subangular blocky structure; firm; many fine roots and few medium roots; few fine pores; thin continuous prominent clay films on faces of peds; strongly acid; gradual wavy boundary.

B22t—13 to 21 inches; yellowish red (5YR 5/8) clay; common medium distinct reddish yellow (7.5YR 6/6) mottles; moderate medium subangular blocky structure; firm; few fine and medium roots; thick continuous prominent clay films on faces of peds; strongly acid; gradual wavy boundary.

B3—21 to 35 inches; reddish yellow (7.5YR 6/8) silty clay loam; common coarse prominent yellowish red (5YR 5/8) and few medium distinct very pale brown (10YR 8/3) mottles; weak medium subangular blocky structure; friable; few fine roots; thin patchy faint clay films on faces of some peds; strongly acid; gradual wavy boundary.

C1—35 to 55 inches; reddish yellow (7.5YR 7/8) silt loam; common medium distinct yellow (10YR 7/6) and few medium prominent very pale brown (10YR 7/4) mottles; massive, soft fragments of rock structure; friable; strongly acid; gradual wavy boundary.

C2—55 to 70 inches; very pale brown (10YR 7/4) silt loam; common medium prominent yellow (10YR 7/8) and white (10YR 8/2) mottles; massive, soft fragments of rock structure; friable; strongly acid.

The solum ranges from 25 to 40 inches in thickness. Depth to rippable bedrock ranges from 45 to more than 60 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

The A horizon has hue of 10YR, value of 4 or 6, and chroma of 3 or 4. It is 4 to 6 inches thick.

The B2t horizon has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 6 or 8. It is clay, silty clay, silty clay loam, or clay loam 12 to 24 inches thick. Some pedons have mottles in shades of brown, yellow, or red. The B3 horizon has hue of 5YR or 7.5YR, value of 5 or 6, and chroma of 6 or 8 and is commonly mottled in shades of red, yellow, or brown. It is silty clay loam or clay loam 8 to 15 inches thick.

The C horizon has hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 4 to 8. It is silt loam or slaty silt loam. Some pedons are mottled red, brown, or yellow.

Norfolk series

The Norfolk series consists of deep, well drained, moderately permeable loamy soils that formed in marine sediment. These nearly level to sloping soils are on broad and narrow ridges and side slopes adjacent to the drainageways of the Coastal Plain. Slope ranges from 0 to 10 percent.

Norfolk soils are closely associated with Faceville, Wagram, Rembert, Orangeburg, and Marlboro soils. Faceville and Orangeburg soils have a B2t horizon of redder hue than Norfolk soils, and Wagram soils have a thicker A horizon. Rembert soils are in low areas and have a gray B2t horizon. Marlboro soils have more clay in the B2t horizon than Norfolk soils.

Typical pedon of Norfolk loamy sand, 0 to 2 percent slopes, about 1 3/4 miles south-southeast of Trenton and about 1 1/2 miles east of intersection of South Carolina Highway 19 and South Carolina secondary Highway 29; 1,000 feet east-northeast of Southern Railroad tracks; 1,060 feet west-southwest of Pine Grove Church; 75 feet south-southeast of field road; in the fifth peach tree row, west-southwest of light pole:

Ap—0 to 7 inches; grayish brown (10YR 5/2) loamy sand; weak fine granular structure; very friable; common fine roots; few dark nodules; neutral; abrupt smooth boundary.

A2—7 to 15 inches; light yellowish brown (10YR 6/4) loamy sand; weak fine granular structure; very friable; few fine pores; few dark nodules; neutral; clear smooth boundary.

B1—15 to 20 inches; yellowish brown (10YR 5/6) sandy loam; weak fine granular and subangular blocky structure; very friable; few fine pores; medium acid; clear smooth boundary.

B21t—20 to 39 inches; yellowish brown (10YR 5/8) sandy clay loam; weak and moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; patchy faint clay films on faces of peds; few fine pores; strongly acid; gradual wavy boundary.

B22t—39 to 45 inches; red (2.5YR 4/8) sandy clay loam; many coarse prominent yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm, sticky, slightly plastic; patchy faint clay films on faces of peds; few nodules of plinthite; strongly acid; gradual wavy boundary.

B23t—45 to 71 inches; red (2.5YR 4/8) clay loam; common medium distinct yellowish red (5YR 5/6) and few medium distinct reddish yellow (7.5YR 6/6) mottles; moderate medium subangular blocky structure; firm, sticky, plastic; patchy faint clay films on faces of peds; strongly acid.

The solum ranges from 60 to more than 72 inches in thickness. Depth to bedrock is more than 72 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3. It is loamy sand or sandy loam 5 to 10 inches thick. The A2 horizon has hue of 10YR, value of 6, and chroma of 3 or 4. It is loamy sand or sandy loam 4 to 12 inches thick.

The B1 horizon has hue of 10YR, value of 5 or 6, and chroma of 4 or 6. It is as much as 8 inches thick. The upper part of the B2t horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 6 or 8. The lower part generally has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8 and is commonly mottled in shades of red, brown, yellow, or gray. The gray mottles are at a depth of 40 inches or more. The B2t horizon is sandy clay loam or clay loam 35 to more than 55 inches thick. If present, the B3 horizon has hue of 5YR to 10YR, value of 5 or 6, and chroma of 6 or 8 and generally is mottled in shades of red, brown, yellow, or gray. It is sandy loam or sandy clay loam as much as 16 inches thick.

These soils are taxadjuncts to the Norfolk series. The lower part of the Bt horizon is of redder hue (2.5YR and

5YR) than is typical for the series. Use, management, and behavior are similar to the Norfolk series.

Orangeburg series

The Orangeburg series consists of deep, well drained, moderately permeable loamy soils that formed in marine sediment. These nearly level to gently sloping soils are on broad ridges of the Coastal Plain. Slope ranges from 0 to 6 percent.

Orangeburg soils are closely associated with Norfolk, Faceville, Wagram, Rembert, Troup, and Marlboro soils. Norfolk, Wagram, and Marlboro soils have a yellowish brown B2t horizon. Faceville soils have a clayey B2t horizon. Rembert soils are in low depressional areas and have a gray clayey B2t horizon. Troup soils have an A horizon 40 to 72 inches thick.

Typical pedon of Orangeburg loamy sand, 0 to 2 percent slopes, about 3/4 mile northeast of Trenton and about 3/5 mile north of Ebenezer Church; 1,800 feet northeast of junction of South Carolina secondary Highway 149 and Southern Railroad; 350 feet north of Southern Railroad:

Ap—0 to 10 inches; brown (10YR 5/3) loamy sand; weak fine granular structure; very friable; few fine roots; medium acid; abrupt smooth boundary.

A2—10 to 16 inches; light yellowish brown (10YR 6/4) loamy sand; weak fine granular structure; very friable; few fine roots; strongly acid; clear smooth boundary.

B1—16 to 23 inches; yellowish red (5YR 5/8) sandy loam; weak fine granular structure; very friable; few fine roots; thin patchy faint clay films on faces of some peds; very strongly acid; gradual wavy boundary.

B21t—23 to 54 inches; red (2.5YR 5/8) sandy clay loam; few medium prominent strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; friable; few fine roots; thin patchy faint clay films on faces of most peds; very strongly acid; gradual wavy boundary.

B22t—54 to 72 inches; red (2.5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; thin patchy faint clay films on faces of some peds; very strongly acid.

The thickness of the solum and depth to bedrock are more than 72 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

The Ap horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 4. It is sand, loamy sand, or sandy loam 6 to 14 inches thick. The A2 horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 3 to 6. It is sand, loamy sand, or sandy loam 4 to 12 inches thick.

The B1 horizon, which is present in most pedons, has hue of 5YR or 7.5YR, value of 5 or 6, and chroma of 6 or 8. It is loamy sand or sandy loam as much as 8 inches thick. The B2t horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8 and is mottled in shades of red or brown. It is sandy loam or sandy clay loam. Some pedons have mottles in shades of yellow. Some pedons are sandy clay below a depth of 45 inches.

Pacolet series

The Pacolet series consists of deep, well drained, moderately permeable clayey soils that formed in material weathered from granite, gneiss, or schist. These strongly sloping to moderately steep soils are on side slopes adjacent to drainageways. Slope ranges from 15 to 25 percent.

Pacolet soils are closely associated with Appling, Cataula, Cecil, Hiwassee, Wateree, and Wilkes soils. Appling, Cataula, Cecil, and Hiwassee soils have a solum more than 40 inches thick. Wateree soils do not have a Bt horizon. Wilkes soils have a base saturation of more than 35 percent.

Typical pedon of Pacolet sandy loam, 15 to 25 percent slopes, 6 miles south-southwest of Edgefield and 1 1/4 miles east of Jeter Church; 2,740 feet east-northeast of junction of South Carolina secondary Highways 34 and 120; left on logging road 1/4 mile east of junction of South Carolina secondary Highways 34 and 120; 2,640 feet on logging road to woods; 450 feet north-northeast from woods; and 270 feet east through pine and hardwoods to area of mostly white oaks:

A1—0 to 3 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine roots, common medium roots; few pebbles of quartz; very strongly acid; abrupt smooth boundary.

A2—3 to 8 inches; brown (7.5YR 4/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine and medium roots; few pebbles of quartz; strongly acid; abrupt smooth boundary.

B21t—8 to 16 inches; red (2.5YR 4/8) clay; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; thin continuous prominent clay films on faces of peds; few fine roots; few fine flakes of mica; very strongly acid; clear smooth boundary.

B22t—16 to 27 inches; red (2.5YR 4/8) clay; few medium distinct reddish yellow (5YR 6/8) mottles; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; thin continuous prominent clay films on faces of peds; few fine roots; few fine flakes of mica; few pebbles of feldspar; very strongly acid; clear smooth boundary.

B3—27 to 40 inches; red (2.5YR 5/8) clay loam; common medium distinct reddish yellow (5YR 6/8) mottles; weak fine subangular blocky structure; firm,

slightly sticky, slightly plastic; few fine roots; common fine flakes of mica; few pebbles of feldspar; very strongly acid; clear smooth boundary.

C—40 to 62 inches; finely mottled yellowish red (5YR 5/8), dark brown (10YR 3/3), yellow (10YR 7/6), very pale brown (10YR 7/3), and light gray (10YR 7/1) sandy loam; massive, soft fragments of rock structure; friable; nonsticky, nonplastic; few fine roots in cracks; common pebbles of feldspar; common fine flakes of mica; very strongly acid.

The solum ranges from 30 to 40 inches in thickness. Depth to bedrock is more than 60 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

The A1 horizon has hue of 10YR, value of 3 to 5, and chroma of 1 to 3. The Ap or A2 horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 or 4. The A horizon is loamy sand, sandy loam, or loam 3 to 13 inches thick. In eroded areas, the Ap horizon has hue of 5YR, value of 4 or 5, and chroma of 4 to 8. It is sandy clay loam or clay loam 2 to 5 inches thick.

If present, the B1 horizon has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. It is sandy clay loam or clay loam as much as 8 inches thick. The B2t horizon has hue of 2.5YR, value of 4 or 5, and chroma of 6 or 8 and generally is mottled in the lower part in shades of yellow or brown. It is clay or sandy clay 8 to 30 inches thick. The B3 horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8 and generally is mottled in shades of red, brown, or yellow. It is sandy clay loam or clay loam 5 to 19 inches thick.

The C horizon is mottled in hue of 2.5YR to 10YR, value of 3 to 8, and chroma of 1 to 8.

Rembert series

The Rembert series consists of deep, poorly drained, slowly permeable clayey soils that formed in marine sediment. These soils are in depressional areas generally known as Carolina Bays in the Coastal Plain. They are subject to common flooding. Slope is less than 2 percent.

Rembert soils are closely associated with Norfolk, Faceville, Wagram, Orangeburg, and Marlboro soils. Those soils are well drained and have a matrix color in the control section that has chroma of more than 2.

Typical pedon of Rembert loam, about 6.0 miles east of Edgefield, 3 1/2 miles southwest of Johnston, and 3 1/2 miles north of Trenton; 1 9/10 miles northeast of junction of South Carolina Highway 121 and South Carolina secondary Highway 149; 1/4 mile southeast of South Carolina Highway 121:

Ap—0 to 5 inches; black (N 2/0) loam; weak medium granular structure; very friable; many fine roots; slightly acid; abrupt smooth boundary.

B2tg—5 to 27 inches; gray (10YR 6/1) clay; few fine prominent strong brown (7.5YR 5/8) root stains along root holes; weak medium subangular blocky structure; firm, plastic, sticky; few fine roots; few medium pores and root holes; thin patchy faint clay films on faces of some peds; very strongly acid; gradual wavy boundary.

B31g—27 to 37 inches; gray (10YR 5/1) sandy clay loam; few medium prominent white (10YR 8/2) and few fine prominent strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm, plastic, sticky; few fine pores; thin patchy faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

B32g—37 to 56 inches; gray (10YR 6/1) sandy clay loam; common medium prominent strong brown (7.5YR 5/8) mottles and few egg-shaped pockets (1/4 to 1 inch in size) of clean white (10YR 8/2) sand; weak medium subangular blocky structure; firm, plastic, sticky; thin patchy faint clay films on some peds; very strongly acid; gradual wavy boundary.

B33g—56 to 73 inches; gray (10YR 6/1) sandy clay loam; many coarse prominent yellowish brown (10YR 5/8), and few medium prominent strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; firm, plastic, sticky; thin patchy faint clay films on some peds; very strongly acid.

The thickness of the solum and depth to bedrock are more than 60 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 0 to 1, or it is neutral. It is sandy loam, loam, or clay loam 5 to 9 inches thick.

If present, the B1 horizon has hue of 10YR, value of 5 or 6, and chroma of 1 or 2. It is sandy clay loam or clay loam as much as 7 inches thick. The B2t horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2 and is generally mottled in shades of red, brown, yellow, or white. It is clay, clay loam, or sandy clay. The B3 horizon has colors similar to those of the B2t horizon. It is sandy clay loam or clay loam.

Riverview series

The Riverview series consists of deep, well drained, moderately permeable loamy soils that formed in alluvium along the flood plains of larger streams. These soils are on nearly level, long, and narrow first bottoms. They are subject to common flooding for brief periods. Slope is dominantly less than 1 percent but ranges to as much as 2 percent.

Riverview soils are closely associated with Enoree, Chewacla, and Toccoa soils. Enoree soils have dominant chroma of 2 or less and have less than 18 percent clay in the control section. Chewacla soils have mottles of chroma of 2 or less within 24 inches of the surface.

Toccoa soils have less than 18 percent clay in the control section.

Typical pedon of Riverview silt loam, 8 3/4 miles northwest of Edgefield; 3 miles southeast of junction of U.S. Highways 378 and 25; 150 feet south of Turkey Creek Bridge and U.S. Highway 25; and 130 feet south of Turkey Creek and 100 feet west of U.S. Highway 25:

Ap—0 to 7 inches; brown (7.5YR 4/4) silt loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.
B21—7 to 20 inches; yellowish red (5YR 5/6) silt loam; weak medium and coarse subangular blocky structure; friable; common fine roots; medium acid; clear smooth boundary.
B22—20 to 40 inches; reddish brown (5YR 4/4) silt loam; few fine faint reddish yellow (5YR 6/6) mottles; weak medium subangular blocky structure; friable; few fine roots; medium acid; clear smooth boundary.
B23—40 to 47 inches; dark brown (10YR 3/3) silt loam; weak medium subangular blocky structure; friable; medium acid; clear smooth boundary.
B24—47 to 58 inches; brown (7.5YR 4/4) silt loam; weak medium subangular blocky structure; friable; medium acid; clear smooth boundary.
B25b—58 to 72 inches; strong brown (7.5YR 5/6) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; medium acid.

Depth to bedrock is more than 60 inches. Reaction ranges from slightly acid to strongly acid throughout the profile except for the surface layer in limed areas.

The A horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4. It is sandy loam, loam, or silt loam 4 to 9 inches thick.

The B2 horizon has hue of 5YR to 10YR, value of 3 to 5, and chroma of 4 to 8. It is loam, silt loam, or silty clay loam that averages between 18 and 35 percent clay. Some pedons have a thin subhorizon with value of 3. Some pedons are mottled in shades of brown, red, or yellow. Some pedons have a Bb horizon below a depth of 35 inches.

These soils are taxadjuncts to the Riverview series. Most of the soils have more silt in the solum and are less acid than is defined for the series. Use, management, and behavior are similar to the Riverview series.

Toccoa series

The Toccoa series consists of deep, well drained, moderately rapidly permeable loamy soils that formed in alluvium along the flood plains of streams. These nearly level soils are on long and narrow first bottoms. They are subject to occasional flooding for brief periods. Slope is dominantly less than 1 percent but ranges to as much as 2 percent.

Toccoa soils are closely associated with Enoree, Chewacla, and Riverview soils. Chewacla and Riverview soils have more than 18 percent clay in the control section. Enoree soils have dominant chroma of 2 or less in the control section.

Typical pedon of Toccoa sandy loam, 1 mile northwest of Edgefield and 1 mile northeast of New Bethel Church; 1,075 feet northwest of U.S. Highway 25 by-pass on Beaverdam Creek; 70 feet north of Beaverdam Creek:

Ap—0 to 7 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; common fine roots; common fine flakes of mica; strongly acid; abrupt smooth boundary.
C1—7 to 20 inches; dark brown (7.5YR 4/4) sandy loam; few medium distinct brownish yellow (10YR 6/6) mottles; massive; friable; few fine roots; common fine flakes of mica; thin lenses of loamy fine sand; strongly acid; clear smooth boundary.
C2—20 to 33 inches; dark brown (10YR 3/3) loam; common medium distinct brownish yellow (10YR 6/6) mottles; massive; friable; common fine flakes of mica; thin lenses of loamy fine sand; few fine fragments of charcoal; medium acid; clear smooth boundary.
C3—33 to 39 inches; brown (10YR 4/3) loam; common fine distinct pale brown (10YR 6/3), common fine prominent black (N 2/0) specks, and common fine distinct strong brown (7.5YR 5/6) mottles; massive; friable; common fine flakes of mica; thin lenses of loamy fine sand; few fine fragments of charcoal; medium acid; clear smooth boundary.
C4—39 to 45 inches; brown (10YR 5/3) loamy fine sand; common coarse distinct light yellowish brown (10YR 6/4), few medium distinct strong brown (7.5YR 5/6), and few fine prominent very dark grayish brown (10YR 3/2) mottles; massive; very friable; common fine flakes of mica; medium acid; abrupt smooth boundary.
C5—45 to 62 inches; yellowish brown (10YR 5/8) sandy loam; few medium distinct light yellowish brown (10YR 6/4) mottles; massive; friable; few fine flakes of mica; medium acid; gradual wavy boundary.
C6—62 to 77 inches; brownish yellow (10YR 6/8) fine sandy loam; common coarse prominent light gray (10YR 7/2) and few medium faint yellowish brown (10YR 5/6) mottles; massive; friable; few fine flakes of mica; few pebbles of quartz; strongly acid.

Depth to bedrock is more than 60 inches. Reaction ranges from slightly acid to strongly acid throughout the profile except for the surface layer in limed areas. Thin bedding planes are throughout the C horizon. Fine flakes of mica range from few to many in all horizons.

The A horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4. It is fine sandy loam, sandy loam, loam, loamy sand, or sand 4 to 8 inches thick.

The C horizon has hue of 5YR to 10YR, value of 3 to 6, and chroma of 3 to 8 and is mottled in shades of

brown, yellow, or black. It is fine sandy loam, sandy loam, loam, loamy sand, sand, sandy clay loam, or silty clay loam. Below a depth of 30 inches, some pedons have mottles of chroma of 2 or less. Some pedons are sandy clay loam or silty clay loam at a depth of more than 35 inches and are less than 20 inches thick.

Troup series

The Troup series consists of deep, well drained, moderately permeable loamy soils that formed in marine sediment. These soils are on broad ridges and strongly sloping and moderately steep side slopes adjacent to streams in the Coastal Plain. Slope ranges from 0 to 25 percent.

Troup soils are closely associated with Norfolk, Faceville, Wagram, Lakeland, and Orangeburg soils. Norfolk, Faceville, and Wagram soils have an A horizon less than 40 inches thick. Lakeland soils do not have a Bt horizon.

Typical pedon of Troup sand, 0 to 6 percent slopes, 8 1/2 miles southeast of Edgefield; 10 1/2 miles southwest of Johnston; 1 1/4 miles east of U.S. Highway 25; 100 feet southwest of dirt road:

Ap—0 to 9 inches; grayish brown (10YR 5/2) sand; single grain; loose; common fine roots; medium acid; clear smooth boundary.

A2—9 to 53 inches; light yellowish brown (10YR 6/4) sand; few medium distinct white (10YR 8/2) uncoated grains of sand; single grain; loose; few fine roots; medium acid; gradual wavy boundary.

B1—53 to 61 inches; yellowish brown (10YR 5/4) sandy loam; few medium distinct strong brown (7.5YR 5/6) mottles; weak fine granular structure; very friable; strongly acid; gradual wavy boundary.

B2t—61 to 81 inches; mottled strong brown (7.5YR 5/8), pale brown (10YR 6/3), and red (2.5YR 4/8) sandy clay loam; weak medium subangular blocky structure; friable; few nodules of plinthite; strongly acid.

Thickness of the solum and depth to bedrock are more than 80 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

The A horizon is 45 to 57 inches thick. The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2. It is 7 to 9 inches thick. If present, the A1 horizon has hue, value, and chroma similar to that of the Ap horizon; however, it is 2 to 4 inches thick. The A2 horizon has hue of 10YR, value of 5 to 8, and chroma of 3 to 8. It is 37 to 51 inches thick.

The B1 horizon, if present, has hue of 7.5YR or 10YR, value of 5, and chroma of 4 to 8 and is as much as 8 inches thick. The B2t horizon has hue of 7.5YR or 10YR, value of 5, and chroma of 4 to 8 and has few to common mottles in shades of brown, yellow, or red. It is sandy clay loam or sandy loam that ranges from 12 to more than 20 inches in thickness. In some pedons, it is mottled in red, brown, or yellow.

Wagram series

The Wagram series consists of deep, well drained, moderately permeable loamy soils that formed in marine sediment. These soils are on broad and narrow, nearly level and gently sloping ridges and on sloping to strongly sloping side slopes adjacent to drainageways. Slope ranges from 0 to 15 percent.

Wagram soils are closely associated with Norfolk, Faceville, Rembert, Lakeland, Orangeburg, Troup, and Marlboro soils. Those soils, with the exception of Troup soils, have an A horizon less than 20 inches thick. Troup soils have an A horizon 40 to 80 inches thick. All of the associated soils are on adjacent slopes.

Typical pedon of Wagram sand, 0 to 6 percent slopes, about 4 miles southwest of Trenton; 1 7/10 miles northeast of intersection of U.S. Highway 25 and County Road 37; 400 feet west of U.S. Highway 25; 50 feet south of field road:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) sand; single grain; loose; common fine roots; few hard and brittle nodules of plinthite; slightly acid; clear smooth boundary.

A2—7 to 28 inches; light yellowish brown (10YR 6/4) sand; few medium distinct areas of clean white sand grains; single grain; loose; few medium roots in upper part; few hard and brittle nodules of plinthite; strongly acid; gradual wavy boundary.

B21t—28 to 44 inches; brownish yellow (10YR 6/6) sandy loam; few medium distinct strong brown mottles; weak fine subangular blocky structure; very friable; few fine pores; few hard and brittle nodules of plinthite; very strongly acid; gradual wavy boundary.

B22t—44 to 60 inches; yellowish brown (10YR 5/8) sandy clay loam; many medium prominent red (2.5YR 4/8) and few medium prominent yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; friable; thin patchy clay films on faces of peds; few 2- to 24-millimeter, hard and brittle nodules of plinthite; strongly acid; gradual wavy boundary.

B23t—60 to 70 inches; red (2.5YR 4/8) sandy clay loam; many coarse prominent light yellowish brown (10YR 6/4) and few medium prominent yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; thin patchy clay films on faces of most peds; few hard and brittle nodules of plinthite; very strongly acid.

Thickness of the solum and depth to bedrock are more than 80 inches. Reaction is strongly acid or very strongly acid throughout the profile except for the surface layer in limed areas.

The Ap and A1 horizons have hue of 10YR, value of 4 or 5, and chroma of 2. The A2 horizon has hue of 10YR, value of 6, and chroma of 3 or 4. It is sand or loamy sand that ranges from 21 to 39 inches in thickness.

The B21t horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 6 or 8. It is 4 to 16 inches thick. Some pedons have brown mottles. The B22t horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 6 or 8. It commonly has few to many mottles in shades of red, yellow, or brown. Some pedons have white and gray mottles at a depth of more than 45 inches. At a depth of 40 inches or more, the B2t horizon commonly has hue of 2.5YR or 5YR.

Wateree series

The Wateree series consists of moderately deep, excessively drained, moderately rapidly permeable loamy soils that formed in residuum weathered from granite rocks. These sloping to moderately steep soils are on narrow ridges and slopes adjacent to drainageways of the Piedmont Uplands. Slope ranges from 6 to 25 percent.

Wateree soils are closely associated with Appling, Cataula, Cecil, Wilkes, and Pacolet soils. All of those soils have an argillic horizon and have 35 percent or more clay in the control section.

Typical pedon of Wateree sandy loam, 10 to 25 percent slopes, about 6 miles south of Edgefield and 1 3/4 miles east of junction of South Carolina secondary Highways 34 and 120; about 1,200 feet north of South Carolina secondary Highway 120, and about 100 feet east of small stream that runs northeast; in a stand of mostly hickory trees:

A1—0 to 4 inches; very dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and medium roots; neutral; abrupt smooth boundary.

A2—4 to 13 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine and medium roots; few pebbles of quartz; medium acid; clear smooth boundary.

B2—13 to 23 inches; light yellowish brown (10YR 5/4) sandy loam; few fine distinct very pale brown (10YR 8/4) mottles; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common fine roots; few pebbles of feldspar; few medium pores; strongly acid; clear smooth boundary.

C—23 to 38 inches; finely mottled pale brown (10YR 6/3), brownish yellow (10YR 6/6), strong brown (7.5YR 5/8), and white (10YR 8/1) loamy sand; massive, soft fragments of rock structure; friable, nonsticky, nonplastic; few fine roots; few fine flakes of mica; common pebbles of feldspar; very strongly acid; gradual wavy boundary.

Cr—38 to 48 inches; weathered granite saprolite that crushes to loamy sand and is difficult to dig with a spade.

R—48 inches; granite bedrock.

The solum ranges from 20 to 30 inches in thickness. Depth to hard bedrock ranges from 48 to more than 60 inches. Reaction ranges from medium acid to extremely acid throughout the profile except for the surface layer in limed areas.

The A1 horizon has hue of 10YR, value of 2 to 5, and chroma of 1 to 3. Some pedons that have an A1 or Ap horizon less than 4 inches thick have value of 2 or 3. The A2 horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4. The A horizon is sandy loam or loamy sand 4 to 10 inches thick.

The B2 horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8. It is 10 to 20 inches thick. If present, the B3 horizon has hue of 10YR, value of 5 or 6, and chroma of 3 to 8. It is loamy sand or sandy loam as much as 8 inches thick.

The C horizon is generally mottled in shades of brown, yellow, and white. It is sandy loam or loamy sand.

Wilkes series

The Wilkes series consists of moderately deep, well drained, moderately slowly permeable clayey soils that formed mostly in material weathered from diorite, gabbro, hornblende gneiss, hornblende schist, or mixed acid and basic rocks. These sloping to steep soils are on narrow ridges and in areas adjacent to drainageways. Slope ranges from 6 to 40 percent.

Wilkes soils are closely associated with Winnsboro, Wateree, Mecklenburg, and Pacolet soils. Winnsboro, Mecklenburg, and Pacolet soils have a thicker solum than Wilkes soils. Wateree soils have less than 18 percent clay in the control section and do not have a B2t horizon.

Typical pedon of Wilkes sandy loam, 15 to 40 percent slopes, about 11 miles south-southwest of Edgefield; 6 1/2 miles south of intersection of South Carolina Highways 23 and 230; 1 1/4 miles north-northeast of intersection of South Carolina Highway 230 and South Carolina secondary Highway 143; 1,400 feet south-southeast of Republican Church; 240 feet east of stream; 207 feet north of South Carolina secondary Highway 148:

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; many fine and medium roots; few pebbles of quartz; few fine flakes of mica; medium acid; abrupt smooth boundary.

B2t—6 to 14 inches; yellowish brown (10YR 5/6) clay; common coarse distinct brownish yellow (10YR 6/6), common medium distinct strong brown (7.5YR 5/8), and few fine prominent gray (10YR 6/1)

mottles; weak coarse angular blocky structure; firm, sticky, plastic; thin patchy distinct clay films on faces of most peds; many fine roots; common fine flakes of mica; few pebbles of feldspar; gray mottles are relict rock material; slightly acid; clear wavy boundary.

B3—14 to 18 inches; finely mottled yellowish brown (10YR 5/4), light yellowish brown (10YR 6/4), black (10YR 2/1), gray (10YR 5/1), and reddish yellow (7.5YR 7/8) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine flakes of mica; common pebbles of feldspar; gray mottles are relict rock material; slightly acid; gradual wavy boundary.

C1—18 to 25 inches; finely mottled black (10YR 2/1), strong brown (7.5YR 5/8), light yellowish brown (10YR 6/4), white (10YR 8/2), yellow (10YR 8/6), and gray (10YR 5/1) sandy loam; massive, soft fragments of rock structure; few fine roots; few fine flakes of mica; common pebbles of feldspar; slightly acid; clear wavy boundary.

C2—25 to 39 inches; finely mottled black (10YR 2/1), light yellowish brown (10YR 6/4), white (10YR 8/2), and yellow (10YR 8/6) loamy sand; massive, soft fragments of rock structure; few fine roots; few fine flakes of mica; common pebbles of feldspar; neutral; diffuse wavy boundary.

Cr—39 to 44 inches; weathered hornblende schist and granite saprolite that crushes to loamy sand.

R—44 inches; bedrock of hornblende schist and granite.

The solum ranges from 12 to 20 inches in thickness. Depth to hard bedrock ranges from 40 to more than 80 inches. Reaction ranges from slightly acid to strongly acid in the A horizon and slightly acid to mildly alkaline in the B and C horizons.

The Ap horizon has hue of 7.5YR or 10YR, value of 4, and chroma of 2 or 3. It is 4 to 7 inches thick. If present, the A1 horizon has hue of 10YR, value of 2 to 4, and chroma of 2 or 3. It is as much as 4 inches thick. If present, the A2 horizon has hue of 10YR, value of 6, and chroma of 2 to 4. It is as much as 5 inches thick.

The B2t horizon has hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 4 to 8 and is mottled in shades of red, brown, yellow, and gray. It is clay, clay loam, or sandy clay loam 4 to 12 inches thick. In some pedons, the lower part of the horizon is mottled in hue of 7.5YR to 2.5Y, value of 2 to 5, and chroma of 1 to 8. Mottles of chroma of 2 of less are relict rock material; they are not caused by wetness. If present, the B3 horizon has hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 2 to 8 and is mottled in shades of white, gray, yellow, brown, black, and red. It is sandy loam, sandy clay loam, or clay loam as much as 15 inches thick. Some pedons are finely mottled in hue of 7.5YR to 2.5Y, value of 2 to 8, and chroma of 1 to 8.

The C horizon is mottled in shades of black, brown, yellow, white, and gray. It is sandy loam and commonly grades to loamy sand as depth increases. The Cr horizon is hornblende schist saprolite commonly mixed with granite saprolite that crushes to loamy sand or sandy loam.

These soils are taxadjuncts to the Wilkes series. They have a solum that is 10 to 20 inches thick over highly weathered saprolite, a clayey control section, and depth to paralithic material that is more than 20 inches. Use, management, and behavior are similar to the Wilkes series.

Winnsboro series

The Winnsboro series consists of deep, well drained, slowly permeable clayey soils that formed in material weathered from diorite, gabbro, hornblende schist, or mixed acid and basic rocks. These gently sloping to strongly sloping soils are on narrow, medium, and broad ridges and on side slopes of the Piedmont Uplands. Slope ranges from 2 to 15 percent.

Winnsboro soils are closely associated with Cataula, Cecil, Georgeville, Helena, Herndon, Kirksey, Goldston, Mecklenburg, Nason, and Gundy soils. Cataula soils have a dense brittle layer. Cecil, Georgeville, Mecklenburg, and Gundy soils have a Bt horizon of redder hue than Winnsboro soils. Helena and Kirksey soils have mottles of chroma of 2 or less within 24 inches of the top of the Bt horizon. Goldston soils have more than 35 percent coarse fragments throughout the control section. Herndon and Nason soils are not as plastic as Winnsboro soils and have a base saturation of less than 35 percent.

Typical pedon of Winnsboro fine sandy loam, 2 to 6 percent slopes, about 4 1/2 miles northeast of Edgefield and 4 miles west of Johnston; 1 1/4 miles north of Strom Thurmond High School; 1/4 mile north of intersection of South Carolina secondary Highways 40 and 175; 450 feet east of dead end dirt road; 165 feet northeast of light pole:

Ap—0 to 6 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; common pebbles of quartz 1/4 inch to 2 inches long and 1/4 inch to 1 1/2 inches thick; neutral; abrupt smooth boundary.

B1—6 to 10 inches; brownish yellow (10YR 6/6) sandy loam; weak medium subangular blocky structure; friable; few fine roots; common pebbles of quartz 1/4 inch to 2 inches long and 1/4 inch to 1 1/2 inches thick; slightly acid; abrupt smooth boundary.

B21t—10 to 22 inches; strong brown (7.5YR 5/6) clay; few fine distinct yellowish red (5YR 5/6) and few medium distinct brownish yellow (10YR 6/6) mottles; moderate medium angular blocky structure; very firm, sticky, plastic; few fine roots; thick continuous prominent clay films on faces of peds; few pebbles of quartz 1/4 inch to 2 inches long and 1/4 inch to 1 1/2 inches thick; slightly acid; gradual wavy boundary.

B22t—22 to 35 inches; strong brown (7.5YR 5/6) clay; few medium prominent brownish yellow (10YR 6/8) and pale brown (10YR 6/3) mottles; moderate medium angular blocky structure; very firm, sticky, very plastic; thick continuous prominent clay films on faces of peds; few pebbles of quartz 1/4 inch to 2 inches long and 1/4 inch to 1 1/2 inches thick; slightly acid; gradual wavy boundary.

B3—35 to 38 inches; yellowish brown (10YR 5/4) clay loam; common medium prominent reddish yellow (7.5YR 6/8), few fine distinct light gray (10YR 7/1), and few medium distinct very pale brown (10YR 7/4) mottles; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; thin patchy faint clay films on faces of peds; few fragments of weathered rock; mildly alkaline; gradual wavy boundary.

C—38 to 61 inches; yellowish brown (10YR 5/4) loam; common medium prominent pale yellow (2.5Y 7/4) and few fine distinct light gray (10YR 7/1) mottles; massive, soft fragments of weathered rock structure; friable; neutral.

The solum ranges from 28 to 50 inches in thickness. Depth to bedrock is more than 60 inches. Reaction ranges from slightly acid to strongly acid in the A horizon and slightly acid to mildly alkaline in the B and C horizons. Dark concretions are few to common throughout the solum in some pedons.

The A horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 4. It is 4 to 14 inches thick.

The B1 horizon has hue of 10YR, value of 5 or 6, and chroma of 4 to 8. It is sandy loam, sandy clay loam, or clay loam 3 to 6 inches thick. The B2t horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 4 to 8 and is mottled in shades of red, brown, and yellow. It is 15 to 30 inches thick. The B3 horizon has hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 4 to 8 and is mottled in shades of red, brown, yellow, and gray. It is clay loam or sandy clay loam 3 to 10 inches thick.

The C horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 6. It is loam, silt loam, or clay loam. Many pedons are mottled in shades of black, brown, yellow, olive, gray, or white.

Formation and morphology of the soils

This section describes the factors of soil formation and morphology of the soils.

Factors of soil formation

Soil is the natural medium for the growth of plants and is the product of soil forming processes acting on accumulated or deposited geologic material. The five important factors in soil formation are parent material, climate, living organisms (plants and animals), relief, and time.

Climate and living organisms are the active forces of soil formation. Their effect on the parent material is modified by relief and by the length of time that the parent material has been in place. The relative importance of each factor differs from place to place. In some places, one factor is dominant, and it fixes most of the properties formed in the soil; however, the interaction of all five factors generally determines the kind of soil that is formed.

Soil formation is complex, but some understanding of the soil forming processes can be gained by considering the five factors involved. Each one of the five factors, however, is affected by and affects each of the other factors.

Parent material

Parent material is the unconsolidated mass from which a soil is formed. In Edgefield County, the parent material was derived from residuum from the parent rocks, alluvium deposited by streams, and marine deposits.

Residual parent material is formed in place through the weathering of the underlying rock. Soils formed in this material make up about 79 percent of the county. The rocks of Edgefield County are mostly granitized mica gneiss; hornblende gneiss; mica schist; massive or weakly foliated granite; gabbro and diorite cut by dikes, or intrusions, of minor rock; and volcanic rocks of the Carolina Slate Belt.

Mica gneiss consists of highly weathered minerals of quartz, feldspar, and mica. Hornblende gneiss is chiefly made up of quartz, feldspar, and hornblende minerals; in places, however, it has variable amounts of biotite mica and chlorite. The thick layers of residuum are clay mixed with fragments of gneiss and quartz and mica minerals. Cecil and Cataula soils formed from this kind of parent material.

Granite is an intrusion into the gneiss and schist rocks. It is massive or weakly foliated. In general, granite is made up of quartz, orthoclase and plagioclase feldspar, biotite and muscovite mica, and of vermiculite and other accessory minerals in variable amounts. In Edgefield County, Appling, Durham, Helena, and Wateree soils formed from weathered granite.

Gabbro and diorite rocks are coarse textured (*5*), distinctly massive, and are not closely jointed. They are made up chiefly of hornblende, pyroxene, and plagioclase feldspar, together with varying amounts of quartz and other accessory minerals. The gabbro and diorite rocks weather at a moderate rate, but the intrusions weather slowly. In some places, flat rocks showing little or no weathering crop out; in most places, however, the rocks are deeply weathered and are covered with a thick layer of soil. Davidson, Hiwassee, Mecklenburg, Wilkes, and Winnsboro soils formed from gabbro and diorite rocks.

Carolina Slate is of volcanic-sedimentary formation. It is composed of amphibolite, quartz-microcline gneiss, quartzite, muscovite schist, and argillite rocks. In this county, Georgeville, Goldston, Gundy, Herndon, and Nason soils formed from these volcanic rocks.

In Edgefield County, recent alluvium is a mixture of gravel, sand, silt, and clay. Much of this alluvium weathered from rocks in the nearby uplands, but some alluvium weathered from granite and metamorphosed rocks of the Piedmont Plateau and of the mountains farther north. The soils that formed in recent alluvium are on the bottom lands. These bottom lands are weakly developed and still receive deposits during floods. In this county, Chewacla, Enoree, Riverview, and Toccoa soils formed in recent alluvium.

The marine deposits consist of a mixture of sand, silt, and clay sediments. These sediments were deposited by the Atlantic Ocean several thousand years ago. They thin out to a feather edge and often occur as isolated patches surrounded by older residual parent material along the northern edge of the deposit. In this county, Eustis, Faceville, Lakeland, Marlboro, Norfolk, Orangeburg, Rembert, Troup, and Wagram soils formed in these sediments.

Climate

The climate of Edgefield County is important in the formation of soils. The county has a temperate climate, and rainfall is well distributed throughout the year. Temperature and precipitation are discussed in the section "Climate," under "General nature of the county."

Climate, particularly precipitation and temperature, affects the physical, chemical, and biological relationships in the soil. Water dissolves minerals, aids chemical and biological activity, and transports the dissolved mineral and organic material through the soil profile. Large amounts of rainwater promote leaching of the soluble bases and the translocation of the less soluble and colloidal material downward through the soil profile. A long frost-free season and heavy rainfall result in the downward movement of fine textured soil material and the loss of plant nutrients.

The amount of water that percolates through the soil depends on the amount of rainfall, the relative humidity, and the length of the frost-free season. Percolation, or the downward movement of water, also is affected by relief, or lay of the land, and by permeability of the soil material. Weathering of the parent material is intensified if the percolation is interrupted by brief periods of shallow freezing. A high average temperature, therefore, speeds weathering. In addition, a high average temperature increases the number and kinds of living organisms in the soil, and these organisms affect soil formation.

Living organisms

The number and kinds of plants and animals that live in and on the soil are determined mainly by the climate and, to a lesser extent, by parent material, relief, and age of the soil.

Bacteria, fungi, and other micro-organisms are indispensable in soil formation. They hasten the weathering of minerals and the decomposing of organic matter. Larger plants alter the soil microclimate, furnish organic matter, and transfer chemical elements from the subsoil to the surface layer.

Most of the fungi, bacteria, and other micro-organisms in the soils of Edgefield County are in the upper few inches of the soil. Earthworms and other small invertebrates are active chiefly in the A horizon and upper part of the B horizon, where they slowly but continuously mix the soil material. Bacteria and fungi decompose organic matter and release nutrients for plant use. Other animals play a secondary but important role in soil formation. By eating plants, they perform one step in returning plant material to the soil.

In Edgefield County, the native vegetation in the uplands is mainly loblolly pine, shortleaf pine, oak, and hickory. In the bottom land, it is mainly sweetgum, black gum, yellow-poplar, maple, tupelo, and ash. Large trees affect soil formation by bringing nutrients from deep in the soil to the upper layers, by bringing soil material from varying depths when a tree is blown over, and by providing large openings to be filled by soil material as large roots decay.

Relief

Relief, or lay of the land, influences soil formation because of its effect on moisture, temperature, and erosion. This influence, however, is modified somewhat by the influence of other soil-forming factors.

In Edgefield County, slopes range from 0 to 40 percent. Most soils on uplands that have slopes of less than 15 percent have thick, well developed profiles. Soils that have slopes of 15 to 40 percent have thinner and less developed profiles. The most extensive soils in the county are gently sloping to strongly sloping and have not been adversely affected by relief.

On stream bottoms, slopes range from 0 to about 2 percent. These soils are young, because the parent material has been in place for a relatively short time.

Time

Time is needed for the formation of soils. The length of time required for a soil to develop depends largely on the intensity of other soil forming factors. The soils in Edgefield County range from immature, or young, soils that have very little profile development to soils that have well defined horizons.

On the smoother parts of the uplands, the soils have generally developed to maturity. The Cecil soil is a mature soil. On the steeper slopes, where geologic erosion has removed the soil material to some extent, the soils tend to be shallower than is typical. Pacolet and Wilkes soils are examples of these soils. On the first

bottoms of streams, the soils are young because the material has not been in place long enough for soil horizons to form. The Toccoa soil is a young soil.

Morphology

When a vertical cut is made into a soil, several layers or horizons become evident. Many soil forming processes have produced this differentiation of horizons, for example, the accumulation of organic matter, the leaching of soluble salts, the reduction and translocation of iron, the formation of soil structure, physical weathering such as freezing and thawing, and chemical weathering of primary minerals or rocks. Some of these processes take place in all soils continually; however, the number of active processes and the degree of their activity vary from one soil to another.

Most soils have three major horizons: the A, B, and C horizons (*9*). These horizons are sometimes subdivided by the use of subscripts and letters to indicate changes within one horizon. For example, the B2t horizon represents a layer within the B horizon that has translocated clay illuviated from the A horizon.

The A horizon is the surface layer. The layer that has the largest accumulation of organic matter is called an A1 horizon. If the soils are cleared and plowed, the surface layer becomes an Ap horizon. The A horizon is the layer of maximum leaching or eluviation of clay and iron. If considerable leaching has taken place, an A2 horizon forms immediately below the surface layer. Generally, this A2 horizon is the lightest colored horizon in the soil. Appling and Durham soils have a well expressed A2 horizon.

The B horizon is below the A horizon and is commonly called the subsoil. It is the horizon of maximum accumulation, or illuviation, of clay, iron, aluminum, or other compounds leached from the A horizon. Cecil, Hiwassee, and Appling soils are soils that have a well expressed B horizon.

The C horizon is below the A or B horizon. In some soils, for example, in Lakeland and Toccoa soils, a B horizon has not formed; the C horizon is immediately below the A horizon in these soils. The C horizon is made up of materials that are little altered by the soil forming processes; however, they can be modified by weathering.

Such soils as Cataula soils have a dense, brittle layer below the Bt horizon, generally at a depth of 15 to 36 inches below the surface. This horizon is very low in content of organic matter. It tends to be cemented and is hard or very hard when dry and brittle when moist. This layer is generally mottled, is slowly or very slowly permeable to water, and commonly has few or many bleached fracture planes that form polygons.

Well drained soils in Edgefield County have a yellowish brown or reddish subsoil, the result of a thin coating of iron oxide on the sand, silt, and clay particles. A soil is considered well drained if it is free of gray (chroma of 2 or less) mottles to a depth of at least 30 inches. Most of the soils in Edgefield County are well drained.

Moderately well drained soils are generally free of gray mottles to a depth of about 15 to 20 inches. Helena soils are moderately well drained.

Somewhat poorly drained soils have gray mottles near the A horizon. The Chewacla soils are somewhat poorly drained.

Poorly drained soils are generally dominantly gray in the A horizon and are with or without mottles. Some poorly drained soils have a gray A horizon. Rembert soils are poorly drained.

Excessively drained soils are generally brownish, yellowish, or reddish and are free of gray (chroma of 2 or less) mottles. They are porous and are generally sandy. Lakeland soils are excessively drained.

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Glossary

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as—

	Inches
Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	More than 12

Base saturation. The degree to which material having cation exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation exchange capacity.

Bedding planes. Fine stratifications, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediments.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Cobblestone (or cobble). A rounded or partly rounded fragment of rock 3 to 10 inches (7.5 to 25 centimeters) in diameter.

Complex, soil. A map unit of two or more kinds of soil in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils are somewhat similar in all areas.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—
Loose.—Noncoherent when dry or moist; does not hold together in a mass.
Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.
Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.
Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.
Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.
Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.
Soft.—When dry, breaks into powder or individual grains under very slight pressure.
Cemented.—Hard; little affected by moistening.

Contour stripcropping (or contour farming). Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation

during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically for long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of the activities of man or other animals or of a catastrophe in nature, for example, fire, that exposes the surface.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.5 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 50 percent, by volume, rounded or angular rock fragments, not prominently flattened, up to 3 inches (7.5 centimeters) in diameter.

Green manure (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced

by soil-forming processes. In the identification of soil horizons, an upper case letter represents the major horizons. Numbers or lower case letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the *Soil Survey Manual*. The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue at the surface of a mineral soil.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these. The combined A and B horizons are generally called the solum, or true soil. If a soil does not have a B horizon, the A horizon alone is the solum.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the A or B horizon. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, the Roman numeral II precedes the letter C.

R layer.—Consolidated rock beneath the soil. The rock commonly underlies a C horizon, but can be directly below an A or a B horizon.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are—

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip.—Water is applied slowly and under low pressure through such applicators as orifices, emitters, porous tubing, or perforated pipe on the surface of or in the soil.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affecting the specified use.

Permeability. The quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of inches per hour that water moves downward through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inch
Slow	0.06 to 0.20 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management. For example, slope, differences in slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	Below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly a kaline	9.1 and higher

Residuum (residual soil material). Unconsolidated, weathered, or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Root zone. The part of the soil that can be penetrated by plant roots.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Saprolite (geology). Soft, earthy, clay-rich, thoroughly decomposed rock formed in place by chemical weathering of igneous and metamorphic rock. In soil science, saprolite is any unconsolidated residual material underlying the soil and grading to hard bedrock below.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter.

Stripcropping. Growing crops in a systematic arrangement of strips or bands which provide vegetative barriers to wind and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the A2 horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that it can soak into the soil or flow slowly to a prepared outlet without harm. A terrace in a field is generally built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or " very fine."

Thin layer (in tables). Otherwise suitable soil material too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

[RECORDED IN THE PERIOD 1958-75 AT JOHNSTON, S.C.]

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days[1]	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January	53.0	32.6	42.9	74	10	59	5.36	3.41	7.12	8	.5
February	55.1	32.7	43.9	76	14	32	4.75	3.13	6.21	8	1.6
March	63.5	40.1	51.8	84	23	165	5.19	3.15	7.01	8	.0
April	73.3	49.5	61.5	89	33	345	5.01	2.99	6.80	6	.0
May	80.6	58.1	69.4	94	41	601	3.82	2.36	5.13	6	.0
June	86.0	64.8	75.4	98	54	762	5.42	2.43	7.85	7	.0
July	88.6	68.3	78.5	98	59	884	5.61	3.76	7.30	8	.0
August	88.1	67.7	77.9	98	58	865	4.47	2.57	6.01	7	.0
September	83.4	61.8	72.6	94	46	678	3.86	1.85	5.50	5	.0
October	75.0	50.5	62.8	87	32	397	2.60	.50	4.21	4	.0
November	66.0	41.2	53.6	84	23	146	2.16	1.11	3.01	4	.0
December	55.9	34.0	44.9	75	13	55	3.62	2.25	4.85	7	.5
Yearly:											
Average	72.4	50.1	61.3	---	---	---	---	---	---	---	---
Extreme	---	---	---	100	10	---	---	---	---	---	---
Total	---	---	---	---	---	4,989	51.87	44.49	58.96	78	2.6

[1] A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50° F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

[Recorded in the period 1958-75 at Johnston, S.C.]

Probability	Temperature		
	24° F or lower	28° F or lower	32° F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	March 11	April 28	April 4
2 years in 10 later than--	March 5	March 23	March 31
5 years in 10 later than--	February 23	March 12	March 24
First freezing temperature in fall:			
1 year in 10 earlier than--	November 21	November 3	October 25
2 years in 10 earlier than--	November 27	November 8	October 29
5 years in 10 earlier than--	December 9	November 18	November 6

TABLE 3.--GROWING SEASON

[Recorded in the period 1958-75 at Johnston, S.C.]

Probability	Daily minimum temperature during growing season		
	Higher than 24° F	Higher than 28° F	Higher than 32° F
	Days	Days	Days
9 years in 10	260	231	214
8 years in 10	270	237	218
5 years in 10	289	250	227
2 years in 10	310	264	237
1 year in 10	324	274	244

TABLE 4.--SUITABILITY AND LIMITATIONS OF MAP UNITS ON THE GENERAL SOIL MAP

[Components of these map units vary widely in suitability. Map unit suitabilities are based on the acreage of each component and on the severity of the limitations of each component]

Map unit	Extent of area	Cultivated crops	Pasture	Woodland	Urban uses	Intensive recreation area
1. Cecil-Pacolet	15	Poor: slope.	Fair: slope, erosion.	Fair: slope.	Poor: slope.	Poor: slope.
2. Cecil-Cataula-Hiwassee	21	Good: slope, erosion.	Good-------	Good--------	Fair: slope, erosion.	Fair: slope, erosion.
3. Appling-Durham-Cataula	2	Good------	Good-------	Good--------	Good----------	Good.
4. Georgeville-Herndon-Kirksey	30	Good------	Good-------	Good--------	Good----------	Good.
5. Gundy-Goldston-Nason	10	Poor: slope, erosion.	Fair: slope, erosion.	Fair: slope.	Fair: slope.	Fair: slope.
6. Wagram-Faceville-Norfolk	12	Good------	Good-------	Fair: sandy, drouthy.	Good----------	Fair: sandy, drouthy.
7. Lakeland-Troup-Wagram	10	Poor: sandy, drouthy.	Good-------	Fair: sandy, drouthy.	Good----------	Fair: sandy, drouthy.

TABLE 5.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
ApB	Appling sandy loam, 2 to 6 percent slopes	11,560	3.8
ApC	Appling sandy loam, 6 to 10 percent slopes	10,945	3.6
CaB	Cataula sandy loam, 2 to 6 percent slopes	9,150	3.0
CaC	Cataula sandy loam, 6 to 10 percent slopes	8,675	2.8
CcB	Cecil sandy loam, 2 to 6 percent slopes	12,100	3.9
CcC	Cecil sandy loam, 6 to 10 percent slopes	15,110	4.9
CcD	Cecil sandy loam, 10 to 15 percent slopes	9,500	3.1
CeC2	Cecil sandy clay loam, 2 to 10 percent slopes, eroded	185	0.1
CpE	Cecil-Pacolet complex, 15 to 25 percent slopes	23,920	7.8
Cw	Chewacla loam	1,035	0.3
DaB2	Davidson sandy clay loam, 2 to 6 percent slopes, eroded	410	0.1
DaC2	Davidson sandy clay loam, 6 to 10 percent slopes, eroded	160	0.1
DuB	Durham loamy sand, 2 to 6 percent slopes	1,965	0.6
EN	Enoree soils	2,240	0.7
EuA	Eustis loamy sand, 0 to 2 percent slopes	580	0.2
FaA	Faceville sandy loam, 0 to 2 percent slopes	3,300	1.1
FaB	Faceville sandy loam, 2 to 6 percent slopes	7,760	2.5
FaC	Faceville sandy loam, 6 to 10 percent slopes	2,955	1.0
GeB	Georgeville silt loam, 2 to 6 percent slopes	26,710	8.7
GeC	Georgeville silt loam, 6 to 10 percent slopes	11,885	3.9
GgB2	Georgeville silty clay loam, 2 to 6 percent slopes, eroded	590	0.2
GoC	Goldston slaty silt loam, 6 to 10 percent slopes	3,240	1.1
GoD	Goldston slaty silt loam, 10 to 15 percent slopes	3,830	1.2
GoF	Goldston slaty silt loam, 15 to 40 percent slopes	3,480	1.1
GuD	Gundy silt loam, 10 to 15 percent slopes	5,920	1.9
GuE	Gundy silt loam, 15 to 25 percent slopes	2,580	0.8
HeB	Helena sandy loam, 2 to 6 percent slopes	2,510	0.8
HeC	Helena sandy loam, 6 to 10 percent slopes	520	0.2
HrB	Herndon very fine sandy loam, 2 to 6 percent slopes	17,475	5.7
HrC	Herndon very fine sandy loam, 6 to 10 percent slopes	11,760	3.8
HwB	Hiwassee sandy loam, 2 to 6 percent slopes	3,810	1.2
HwC	Hiwassee sandy loam, 6 to 10 percent slopes	2,430	0.8
HwD	Hiwassee sandy loam, 10 to 15 percent slopes	535	0.2
HyB2	Hiwassee sandy clay loam, 2 to 6 percent slopes, eroded	120	*
KrB	Kirksey silt loam, 2 to 6 percent slopes	11,045	3.6
LaB	Lakeland sand, 0 to 6 percent slopes	6,810	2.2
LaC	Lakeland sand, 6 to 10 percent slopes	3,060	1.0
LaE	Lakeland sand, 10 to 25 percent slopes	1,250	0.4
LTE	Lakeland and Troup sands, 15 to 25 percent slopes	2,210	0.7
MbA	Marlboro sandy loam, 0 to 2 percent slopes	660	0.2
MbB	Marlboro sandy loam, 2 to 6 percent slopes	750	0.2
MeB	Mecklenburg sandy loam, 2 to 6 percent slopes	830	0.3
MeC	Mecklenburg sandy loam, 6 to 10 percent slopes	400	0.1
NaD	Nason loam, 10 to 15 percent slopes	4,275	1.4
NaE	Nason loam, 15 to 25 percent slopes	915	0.3
NoA	Norfolk loamy sand, 0 to 2 percent slopes	2,740	0.9
NoB	Norfolk loamy sand, 2 to 6 percent slopes	3,450	1.1
NoC	Norfolk loamy sand, 6 to 10 percent slopes	475	0.2
OrA	Orangeburg loamy sand, 0 to 2 percent slopes	1,180	0.4
OrB	Orangeburg loamy sand, 2 to 6 percent slopes	870	0.3
Re	Rembert loam	1,000	0.3
Rv	Riverview silt loam	1,560	0.5
To	Toccoa sandy loam	12,625	4.1
TrB	Troup sand, 0 to 6 percent slopes	5,550	1.8
TrC	Troup sand, 6 to 10 percent slopes	390	0.1
TWD	Troup, Wagram, and Lakeland sands, 10 to 15 percent slopes	870	0.3
WaB	Wagram sand, 0 to 6 percent slopes	9,625	3.1
WaC	Wagram sand, 6 to 10 percent slopes	7,455	2.4
WeE	Wateree sandy loam, 10 to 25 percent slopes	685	0.2
WkC	Wilkes sandy loam, 6 to 10 percent slopes	140	*
WkD	Wilkes sandy loam, 10 to 15 percent slopes	335	0.1
WkE	Wilkes sandy loam, 15 to 40 percent slopes	965	0.3
WnB	Winnsboro fine sandy loam, 2 to 6 percent slopes	3,230	1.1
WnC	Winnsboro fine sandy loam, 6 to 10 percent slopes	1,380	0.5
WnD	Winnsboro fine sandy loam, 10 to 15 percent slopes	765	0.2
	Water	1,560	0.5
	Total	308,000	100.0

* Less than 0.1 percent.

TABLE 6.--YIELDS PER ACRE OF CROPS AND PASTURE

[Yields are those that can be expected under a high level of management. Absence of a yield figure indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Map symbol and soil name	Peaches	Soybeans	Corn	Wheat	Improved bermudagrass	Tall fescue	Common bermudagrass
	Bu	Bu	Bu	Bu	AUM*	AUM*	AUM*
ApB---- Appling	500	35	95	45	8.0	7.5	7.0
ApC---- Appling	500	30	80	40	7.5	7.0	6.5
CaB---- Cataula	---	30	70	45	7.0	6.0	6.0
CaC---- Cataula	---	25	60	40	6.5	6.0	6.0
CcB---- Cecil	500	40	95	50	8.0	7.5	7.5
CcC---- Cecil	500	35	90	45	7.5	7.0	7.0
CcD---- Cecil	500	30	70	35	7.0	6.5	6.5
CeC2---- Cecil	---	25	70	35	7.0	6.5	6.5
CpE---- Cecil-Pacolet	---	---	---	---	5.5	5.0	5.0
Cw---- Chewacla	---	35	100	40	8.0	8.5	7.0
DaB2---- Davidson	500	40	90	35	9.0	8.0	7.5
DaC2---- Davidson	500	35	75	30	8.5	7.0	7.0
DuB---- Durham	---	30	85	40	7.5	7.0	7.0
EN---- Enoree	---	---	---	---	6.0	7.5	4.5
EuA---- Eustis	400	25	60	30	7.0	---	6.0
FaA---- Faceville	800	45	110	50	10.0	4.0	8.0
FaB---- Faceville	800	45	110	50	10.0	4.0	8.0
FaC---- Faceville	750	35	90	45	9.5	3.5	7.5
GeB---- Georgeville	---	35	90	40	8.0	6.0	7.0
GeC---- Georgeville	---	30	80	35	7.5	5.5	6.5
GgB2---- Georgeville	---	25	75	35	7.5	5.0	6.5

See footnote at end of table.

TABLE 6.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Map Symbol and soil name	Peaches	Soybeans	Corn	Wheat	Improved bermuda-grass	Tall fescue	Common bermuda-grass
	Bu	Bu	Bu	Bu	AUM*	AUM*	AUM*
GoC---------- Goldston	---	15	50	25	6.0	5.0	5.0
GoD---------- Goldston	---	10	35	20	5.5	4.5	4.5
GoF---------- Goldston	---	---	---	---	---	---	---
GuD---------- Gundy	---	25	65	30	6.5	6.0	5.0
GuE---------- Gundy	---	---	---	---	5.5	5.5	4.5
HeB---------- Helena	---	30	75	40	7.5	7.5	6.5
HeC---------- Helena	---	25	65	35	7.0	7.0	6.0
HrB---------- Herndon	---	35	90	40	8.0	8.0	7.0
HrC---------- Herndon	---	30	80	35	7.5	7.5	6.5
HwB---------- Hiwassee	---	40	95	40	8.0	7.5	7.0
HwC---------- Hiwassee	---	35	85	35	7.5	7.0	6.5
HwD---------- Hiwassee	---	25	75	30	7.0	6.5	6.0
HyB2---------- Hiwassee	---	30	75	30	7.0	6.5	6.0
KrB---------- Kirksey	---	30	65	35	6.5	6.0	5.5
LaB---------- Lakeland	---	15	45	20	7.0	---	6.0
LaC---------- Lakeland	200	15	40	20	6.5	---	5.5
LaE---------- Lakeland	200	---	---	---	6.0	---	5.0
LTE---------- Lakeland and Troup	---	---	---	---	6.0	---	5.0
MbA---------- Marlboro	800	45	100	45	10.0	4.0	8.0
MbB---------- Marlboro	800	45	100	45	10.0	4.0	8.0
MeB---------- Mecklenburg	---	40	90	35	8.0	7.0	7.0
MeC---------- Mecklenburg	---	35	80	30	7.5	6.5	6.5
NaD---------- Nason	---	25	85	30	6.0	6.0	5.0

See footnote at end of table.

TABLE 6.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Map Symbol and soil name	Peaches	Soybeans	Corn	Wheat	Improved bermuda-grass	Tall fescue	Common bermuda-grass
	Bu	Bu	Bu	Bu	AUM*	AUM*	AUM*
NaE--- Nason	---	---	---	---	5.0	5.5	4.5
NoA--- Norfolk	800	45	110	60	10.5	---	9.0
NoB--- Norfolk	800	40	100	55	10.5	---	8.5
NoC--- Norfolk	750	35	90	50	10.0	---	8.0
OrA--- Orangeburg	800	40	100	45	10.0	---	8.5
OrB--- Orangeburg	800	40	100	45	10.0	---	8.5
Re--- Rembert	---	40	95	30	5.5	8.0	4.5
Rv--- Riverview	---	35	90	45	8.0	7.5	7.0
To--- Toccoa	---	30	80	40	8.0	6.5	7.5
TrB--- Troup	400	20	60	35	7.5	---	6.5
TrC--- Troup	350	20	55	30	6.5	---	6.0
TWD--- Troup, Wagram and Lakeland	---	15	40	25	6.0	---	5.5
WaB--- Wagram	600	25	75	35	8.0	---	7.0
WaC--- Wagram	600	25	70	30	7.5	---	6.5
WeE--- Wateree	---	---	---	---	5.0	3.0	4.5
WkC, WkD--- Wilkes	---	---	60	25	4.5	4.0	3.5
WkE--- Wilkes	---	20	---	---	4.0	3.5	3.0
WnB--- Winnsboro	---	35	85	40	7.0	6.5	6.0
WnC--- Winnsboro	---	30	75	35	6.5	6.0	5.5
WnD--- Winnsboro	---	25	65	25	6.0	5.5	5.0

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

TABLE 7.--CAPABILITY CLASSES AND SUBCLASSES

[Miscellaneous areas are excluded. Absence of an entry indicates no acreage]

Class	Total acreage	Major management concerns (Subclass)		
		Erosion (e)	Wetness (w)	Soil problem (s)
		Acres	Acres	Acres
I	7,880	---	---	---
II	127,875	104,065	14,185	9,625
III	84,285	68,665	2,035	13,585
IV	40,060	29,620	---	10,440
V	2,240	---	2,240	---
VI	35,510	27,750	---	7,760
VII	8,590	1,650	---	6,940
VIII	---	---	---	---

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY

[Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available]

Map symbol and soil name	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	
ApB, ApC---------- Appling	3o	Slight	Slight	Slight	Slight	Loblolly pine-------	81	Eastern redcedar, eastern white pine, loblolly pine, yellow-poplar.
						Shortleaf pine------	65	
						Scarlet oak---------	68	
						Southern red oak----	76	
						Virginia pine-------	74	
						White oak-----------	71	
						Yellow-poplar-------	90	
CaB, CaC---------- Cataula	3o	Slight	Slight	Slight	Moderate	Loblolly pine-------	80	Loblolly pine, yellow-poplar, white oak, southern red oak.
						Shortleaf pine------	66	
						Scarlet oak---------	84	
						White oak-----------	81	
						Yellow-poplar-------	88	
CcB, CcC, CcD------ Cecil	3o	Slight	Slight	Slight	Slight	Eastern white pine--	80	Eastern white pine, loblolly pine, yellow-poplar.
						Loblolly pine-------	80	
						Shortleaf pine------	69	
						Virginia pine-------	73	
						Black oak-----------	66	
						Northern red oak----	82	
						Post oak------------	65	
						Scarlet oak---------	80	
CeC2---------- Cecil	4c	Moderate	Moderate	Moderate	Slight	Loblolly pine-------	72	Loblolly pine, shortleaf pine, Virginia pine.
						Shortleaf pine------	66	
						Virginia pine-------	65	
CpE*: Cecil----------	3r	Moderate	Moderate	Slight	Slight	Eastern white pine--	80	Eastern white pine, loblolly pine, yellow-poplar.
						Loblolly pine-------	80	
						Shortleaf pine------	69	
						Virginia pine-------	73	
						Black oak-----------	66	
						Northern red oak----	82	
						Post oak------------	65	
						Scarlet oak---------	80	
Pacolet----------	3r	Moderate	Moderate	Slight	Slight	Loblolly pine-------	78	Loblolly pine, shortleaf pine, yellow-poplar.
						Shortleaf pine------	70	
						Yellow-poplar-------	90	
Cw---------- Chewacla	1w	Slight	Moderate	Moderate	Slight	Loblolly pine-------	96	Loblolly pine, American sycamore, yellow-poplar, sweetgum, eastern white pine, green ash, eastern cottonwood.
						Yellow-poplar-------	104	
						American sycamore---	90	
						Sweetgum------------	97	
						Water oak-----------	86	
						Eastern cottonwood--	100	
						Green ash-----------	97	
						Southern red oak----	90	
DaB2, DaC2--------- Davidson	3c	Moderate	Slight	Slight	Slight	Loblolly pine-------	81	Loblolly pine, yellow-poplar.
						Shortleaf pine------	68	
						Northern red oak----	86	
						Southern red oak----	72	
						Sweetgum------------	80	
						White oak-----------	71	
						Yellow-poplar-------	80	
DuB---------- Durham	3o	Slight	Slight	Slight	Slight	Loblolly pine-------	80	Loblolly pine, yellow-poplar.
						Post oak------------	70	
						Shortleaf pine------	72	
						Southern red oak----	80	
						Sweetgum------------	80	
						White oak-----------	70	
						Yellow-poplar-------	80	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	
EN* Enoree	2w	Slight	Severe	Severe	Slight	Loblolly pine Slash pine Shortleaf pine Sweetgum Eastern cottonwood American sycamore	90 90 80 90 90 90	Loblolly pine, American sycamore, eastern cottonwood.
EuA Eustis	3s	Slight	Moderate	Moderate	Slight	Slash pine Loblolly pine Longleaf pine	80 80 65	Loblolly pine.
FaA, FaB, FaC Faceville	3o	Slight	Slight	Slight	Slight	Loblolly pine Slash pine Longleaf pine	82 80 65	Loblolly pine.
GeB, GeC Georgeville	3o	Slight	Slight	Slight	Slight	Loblolly pine Longleaf pine Shortleaf pine White oak Scarlet oak Southern red oak	81 67 63 69 70 67	Loblolly pine, Virginia pine, eastern redcedar, black walnut, yellow-poplar.
GgB2 Georgeville	4c	Moderate	Moderate	Moderate	Slight	Loblolly pine Longleaf pine	70 60	Loblolly pine, Virginia pine.
GoC, GoD Goldston	4o	Slight	Slight	Slight	Moderate	Loblolly pine Longleaf pine Shortleaf pine Southern red oak White oak	73 68 63 66 69	Eastern redcedar, loblolly pine, Virginia pine.
GoF Goldston	4r	Moderate	Moderate	Slight	Moderate	Loblolly pine Longleaf pine Shortleaf pine Southern red oak White oak	73 68 63 66 69	Eastern redcedar, loblolly pine, Virginia pine.
GuD Gundy	4o	Slight	Slight	Slight	Slight	Loblolly pine Shortleaf pine Scarlet oak Southern red oak Sweetgum Virginia pine White oak Yellow-poplar	75 65 60 80 50 70 65 80	Loblolly pine, eastern redcedar, Virginia pine.
GuE Gundy	4r	Moderate	Moderate	Slight	Slight	Loblolly pine Shortleaf pine Scarlet oak Southern red oak Sweetgum Virginia pine White oak Yellow-poplar	75 65 60 80 50 70 65 80	Loblolly pine, eastern redcedar, Virginia pine.
HeB, HeC Helena	3w	Slight	Moderate	Slight	Slight	Loblolly pine Shortleaf pine White oak Yellow-poplar	80 63 64 87	Loblolly pine, Virginia pine, yellow-poplar.
HrB, HrC Herndon	3o	Slight	Slight	Slight	Slight	Loblolly pine Shortleaf pine White oak Southern red oak Yellow-poplar	80 61 65 72 91	Loblolly pine, Virginia pine, eastern redcedar, yellow-poplar.

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	
HwB, HwC, HwD---- Hiwassee	3o	Slight	Slight	Slight	Slight	Loblolly pine----	75	Loblolly pine, yellow-poplar.
						Northern red oak----	70	
						Shortleaf pine----	70	
						White oak----	70	
						Yellow-poplar----	85	
HyB2---- Hiwassee	4c	Moderate	Moderate	Moderate	Slight	Loblolly pine----	70	Loblolly pine, eastern redcedar, Virginia pine.
						Shortleaf pine----	60	
KrB---- Kirksey	4w	Slight	Moderate	Slight	Slight	Loblolly pine----	67	Loblolly pine, eastern redcedar.
LaB, LaC, LaE---- Lakeland	4s	Slight	Moderate	Moderate	Slight	Slash pine----	75	Loblolly pine, longleaf pine.
						Loblolly pine----	75	
						Longleaf pine----	60	
LTE*:								
Lakeland----	4s	Slight	Moderate	Moderate	Slight	Slash pine----	75	Loblolly pine, longleaf pine.
						Loblolly pine----	75	
						Longleaf pine----	60	
Troup----	3s	Slight	Moderate	Moderate	Slight	Loblolly pine----	82	Loblolly pine, longleaf pine.
						Longleaf pine----	64	
						Slash pine----	84	
MbA, MbB---- Marlboro	3o	Slight	Slight	Slight	Slight	Loblolly pine----	82	Loblolly pine.
						Slash pine----	80	
						Longleaf pine----	62	
MeB, MeC---- Mecklenburg	4o	Slight	Slight	Slight	Slight	Loblolly pine----	75	Loblolly pine, Virginia pine, eastern redcedar.
						Shortleaf pine----	67	
						Southern red oak----	75	
						Sweetgum----	82	
						White oak----	71	
						Yellow-poplar----	89	
						Eastern redcedar----	---	
NaD---- Nason	3o	Slight	Slight	Slight	Slight	Northern red oak----	60	Loblolly pine, Virginia pine.
						Virginia pine----	69	
						Shortleaf pine----	66	
						Loblolly pine----	80	
NaE---- Nason	3r	Moderate	Moderate	Slight	Slight	Northern red oak----	60	Loblolly pine, Virginia pine.
						Virginia pine----	69	
						Shortleaf pine----	66	
						Loblolly pine----	80	
NoA, NoB, NoC---- Norfolk	2o	Slight	Slight	Slight	Slight	Loblolly pine----	86	Loblolly pine.
						Longleaf pine----	68	
						Slash pine----	86	
OrA, OrB---- Orangeburg	2o	Slight	Slight	Slight	Slight	Loblolly pine----	86	Loblolly pine.
						Slash pine----	86	
						Longleaf pine----	70	
Re---- Rembert	2w	Slight	Moderate	Moderate	Slight	Loblolly pine----	90	Loblolly pine, sweetgum, eastern cottonwood.
						Slash pine----	---	
						Sweetgum----	---	
Rv---- Riverview	1o	Slight	Slight	Slight	Slight	Yellow-poplar----	120	Loblolly pine, eastern cottonwood, sweetgum, yellow-poplar, American sycamore.
						Loblolly pine----	97	
						Sweetgum----	110	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	
To Toccoa	1o	Slight	Slight	Slight	Slight	Loblolly pine Yellow-poplar Sweetgum Southern red oak	90 107 100 ---	Loblolly pine, yellow-poplar, American sycamore, cherrybark oak.
TrB, TrC Troup	3s	Slight	Moderate	Moderate	Slight	Loblolly pine Longleaf pine Slash pine	82 64 84	Loblolly pine, longleaf pine.
TWD*: Troup	3s	Slight	Moderate	Moderate	Slight	Loblolly pine Longleaf pine Slash pine	82 64 84	Loblolly pine, longleaf pine.
Wagram	3s	Slight	Moderate	Moderate	Slight	Loblolly pine Slash pine Longleaf pine	82 80 67	Loblolly pine, longleaf pine.
Lakeland	4s	Slight	Moderate	Moderate	Slight	Slash pine Loblolly pine Longleaf pine	75 75 60	Loblolly pine, longleaf pine.
WaB, WaC Wagram	3s	Slight	Moderate	Moderate	Slight	Loblolly pine Slash pine Longleaf pine	82 80 67	Loblolly pine, longleaf pine.
WeE Wateree	3r	Moderate	Moderate	Moderate	Slight	Loblolly pine Shortleaf pine Southern red oak Yellow-poplar Virginia pine White oak	77 69 72 84 71 68	Loblolly pine, Virginia pine, yellow-poplar.
WkC, WkD Wilkes	4o	Slight	Slight	Slight	Moderate	Loblolly pine Post oak Shortleaf pine Southern red oak Sweetgum	75 79 63 76 82	Eastern redcedar, loblolly pine, Virginia pine.
WkE Wilkes	4r	Moderate	Moderate	Slight	Moderate	Loblolly pine Post oak Shortleaf pine Southern red oak Sweetgum	75 79 63 76 82	Eastern redcedar, loblolly pine, Virginia pine.
WnB, WnC, WnD Winnsboro	4o	Slight	Slight	Slight	Slight	Loblolly pine Shortleaf pine Virginia pine Post oak Red maple Southern red oak Sweetgum White oak Yellow-poplar	73 63 63 55 70 84 78 69 88	Eastern redcedar, loblolly pine.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--RECREATIONAL DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails
ApB---- Appling	Slight	Slight	Moderate: slope.	Slight.
ApC---- Appling	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
CaB---- Cataula	Moderate: percs slowly.	Slight	Moderate: percs slowly, slope.	Slight.
CaC---- Cataula	Moderate: percs slowly, slope.	Moderate: slope.	Severe: slope.	Slight.
CcB---- Cecil	Slight	Slight	Moderate: slope.	Slight.
CcC, CcD---- Cecil	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
CeC2---- Cecil	Moderate: slope.	Moderate: slope, too clayey.	Severe: slope.	Moderate: too clayey.
CpE*:				
Cecil----	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.
Pacolet----	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.
Cw---- Chewacla	Severe: floods, wetness.	Moderate: wetness, floods.	Severe: wetness, floods.	Moderate: wetness, floods.
DaB2---- Davidson	Moderate: too clayey.	Moderate: too clayey.	Moderate: slope, too clayey.	Moderate: too clayey.
DaC2---- Davidson	Moderate: slope, too clayey.	Moderate: slope, too clayey.	Severe: slope.	Moderate: too clayey.
DuB---- Durham	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope.	Moderate: too sandy.
EN*---- Enoree	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
EuA---- Eustis	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy, soil blowing.	Moderate: too sandy.
FaA---- Faceville	Slight	Slight	Slight	Slight.
FaB---- Faceville	Slight	Slight	Moderate: slope.	Slight.
FaC---- Faceville	Slight	Slight	Severe: slope.	Slight.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails
GeB---- Georgeville	Slight	Slight	Moderate: slope.	Slight.
GeC---- Georgeville	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
GgB2---- Georgeville	Moderate: too clayey.	Moderate: too clayey.	Moderate: too clayey, slope.	Moderate: too clayey.
GoC, GoD---- Goldston	Moderate: small stones, slope.	Moderate: small stones, slope.	Severe: depth to rock, slope.	Moderate: small stones.
GoF---- Goldston	Severe: slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: small stones, slope.
GuD---- Gundy	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
GuE---- Gundy	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.
HeB---- Helena	Moderate: percs slowly, wetness.	Moderate: wetness, percs slowly.	Moderate: percs slowly, wetness.	Moderate: wetness.
HeC---- Helena	Moderate: percs slowly, wetness.	Moderate: wetness, percs slowly.	Severe: slope.	Moderate: wetness.
HrB---- Herndon	Slight	Slight	Moderate: slope.	Slight.
HrC---- Herndon	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
HwB---- Hiwassee	Slight	Slight	Moderate: slope.	Slight.
HwC, HwD---- Hiwassee	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
HyB2---- Hiwassee	Moderate: too clayey.	Moderate: too clayey.	Moderate: slope.	Moderate: too clayey.
KrB---- Kirksey	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: slope, wetness, percs slowly.	Slight.
LaB---- Lakeland	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.
LaC---- Lakeland	Severe: too sandy.	Severe: too sandy.	Severe: too sandy, slope.	Severe: too sandy.
LaE---- Lakeland	Severe: too sandy, slope.	Severe: too sandy, slope.	Severe: too sandy, slope.	Severe: too sandy.
LTE*: Lakeland----	Severe: too sandy, slope.	Severe: too sandy, slope.	Severe: too sandy, slope.	Severe: too sandy.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails
LTE*: Troup	Severe: slope, too sandy.	Severe: slope, too sandy.	Severe: slope, too sandy.	Severe: too sandy.
MbA--- Marlboro	Slight	Slight	Slight	Slight.
MbB--- Marlboro	Slight	Slight	Moderate: slope.	Slight.
MeB--- Mecklenburg	Slight	Slight	Moderate: slope, small stones.	Slight.
MeC--- Mecklenburg	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
NaD--- Nason	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
NaE--- Nason	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.
NoA--- Norfolk	Slight	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.
NoB--- Norfolk	Slight	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.
NoC--- Norfolk	Moderate: slope.	Moderate: slope, too sandy.	Severe: slope.	Moderate: too sandy.
OrA--- Orangeburg	Slight	Slight	Slight	Slight.
OrB--- Orangeburg	Slight	Slight	Moderate: slope.	Slight.
Re--- Rembert	Severe: wetness, floods, percs slowly.	Severe: wetness, floods.	Severe: wetness, floods, percs slowly.	Severe: wetness, floods.
Rv--- Riverview	Severe: floods.	Moderate: floods.	Moderate: floods.	Slight.
To--- Toccoa	Severe: floods.	Moderate: floods.	Moderate: floods.	Slight.
TrB--- Troup	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.
TrC--- Troup	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.
TWD*: Troup	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.
Wagram	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails
TWD*: Lakeland	Severe: too sandy.	Severe: too sandy.	Severe: too sandy, slope.	Severe: too sandy.
WaB, WaC---- Wagram	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.
WeE---- Wateree	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.
WkC, WkD---- Wilkes	Moderate: slope, percs slowly.	Moderate: slope.	Severe: slope.	Slight.
WkE---- Wilkes	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
WnB---- Winnsboro	Moderate: percs slowly.	Slight----	Moderate: slope, small stones, percs slowly.	Slight.
WnC, WnD---- Winnsboro	Moderate: percs slowly, slope.	Moderate: slope.	Severe: slope.	Slight.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 10.--WILDLIFE HABITAT POTENTIALS

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated]

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
ApB---- Appling	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
ApC---- Appling	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
CaB---- Cataula	Fair	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
CaC---- Cataula	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
CcB---- Cecil	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
CcC, CcD---- Cecil	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
CeC2---- Cecil	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
CpE*:										
Cecil----	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Pacolet----	Very poor	Poor	Poor	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Cw---- Chewacla	Poor	Fair	Fair	Good	Good	Poor	Very poor	Fair	Good	Very poor
DaB2---- Davidson	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Poor
DaC2---- Davidson	Fair	Good	Good	Good	Fair	Very poor	Very poor	Good	Fair	Very poor
DuB---- Durham	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
EN*---- Enoree	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair	Fair
EuA---- Eustis	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
FaA---- Faceville	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
FaB---- Faceville	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
FaC---- Faceville	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
GeB, GeC---- Georgeville	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
GgB2---- Georgeville	Fair	Fair	Fair	Good	Fair	Very poor	Very poor	Fair	Good	Very poor

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT POTENTIALS--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
GoC, GoD, GoF---- Goldston	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
GuD---- Gundy	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
GuE---- Gundy	Poor	Fair	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
HeB---- Helena	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
HeC---- Helena	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
HrB---- Herndon	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
HrC---- Herndon	Fair	Good	Fair	Good	Good	Very poor	Very poor	Fair	Good	Very poor
HwB---- Hiwassee	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
HwC, HwD---- Hiwassee	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
HyB2---- Hiwassee	Fair	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
KrB---- Kirksey	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
LaB, LaC, LaE---- Lakeland	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Fair	Fair	Very poor
LTE*:										
Lakeland----	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Fair	Fair	Very poor
Troup----	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
MbA, MbB---- Marlboro	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MeB---- Mecklenburg	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MeC---- Mecklenburg	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
NaD---- Nason	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
NaE---- Nason	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
NoA, NoB---- Norfolk	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
NoC---- Norfolk	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
OrA, OrB---- Orangeburg	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT POTENTIALS--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Re---------- Rembert	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
Rv---------- Riverview	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor
To---------- Toccoa	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
TrB, TrC---------- Troup	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
TWD*:										
Troup----------	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
Wagram----------	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Lakeland----------	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Fair	Fair	Very poor
WaB---------- Wagram	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
WaC---------- Wagram	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
WeE---------- Wateree	Poor	Poor	Poor	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
WkC, WkD---------- Wilkes	Poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
WkE---------- Wilkes	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
WnB---------- Winnsboro	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
WnC, WnD---------- Winnsboro	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 11.--BUILDING SITE DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe"]

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
ApB---- Appling	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Slight	Slight.
ApC---- Appling	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
CaB---- Cataula	Moderate: cemented pan.	Moderate: shrink-swell.	Moderate: cemented pan.	Moderate: shrink-swell, slope.	Moderate: low strength, shrink-swell.	Slight.
CaC---- Cataula	Moderate: slope, cemented pan.	Moderate: shrink-swell, slope.	Moderate: cemented pan, slope.	Severe: slope.	Moderate: low strength, shrink-swell.	Moderate: slope.
CcB---- Cecil	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: slope, shrink-swell.	Moderate: low strength, shrink-swell.	Slight.
CcC, CcD, CeC2---- Cecil	Moderate: too clayey, slope.	Moderate: slope, shrink-swell.	Moderate: slope, shrink-swell.	Severe: slope.	Moderate: low strength, slope, shrink-swell.	Moderate: slope.
CpE*:						
Cecil----	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Pacolet----	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Cw---- Chewacla	Severe: wetness, floods.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness, low strength.	Severe: wetness, floods, low strength.	Severe: wetness, floods.
DaB2---- Davidson	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength.	Slight.
DaC2---- Davidson	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength.	Moderate: slope.
DuB---- Durham	Slight	Slight	Slight	Moderate: slope.	Slight	Slight.
EN*---- Enoree	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: wetness, floods.
EuA---- Eustis	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Slight.
FaA---- Faceville	Moderate: too clayey.	Slight	Slight	Slight	Moderate: low strength.	Slight.
FaB, FaC---- Faceville	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength.	Moderate: slope.
GeB---- Georgeville	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength.	Slight.
GeC---- Georgeville	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope.	Moderate: slope.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
GgB2---------- Georgeville	Moderate: too clayey.	Slight---------	Slight---------	Moderate: slope.	Moderate: low strength.	Slight.
GoC, GoD---------- Goldston	Severe: depth to rock.	Moderate: depth to rock, slope.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock.	Moderate: small stone, slope.
GoF---------- Goldston	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.
GuD---------- Gundy	Moderate: depth to rock, too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
GuE---------- Gundy	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
HeB---------- Helena	Severe: too clayey.	Severe: shrink-swell, wetness.	Severe: shrink-swell, wetness.	Severe: shrink-swell, wetness.	Severe: shrink-swell, low strength.	Moderate: wetness.
HeC---------- Helena	Severe: too clayey.	Severe: shrink-swell, wetness.	Severe: shrink-swell, wetness.	Severe: shrink-swell, slope, wetness.	Severe: shrink-swell, low strength.	Moderate: slope, wetness.
HrB---------- Herndon	Moderate: too clayey.	Slight---------	Slight---------	Moderate: slope.	Moderate: low strength.	Slight.
HrC---------- Herndon	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope.	Moderate: slope.
HwB---------- Hiwassee	Moderate: too clayey.	Slight---------	Slight---------	Moderate: slope.	Moderate: low strength.	Slight.
HwC, HwD---------- Hiwassee	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope.	Moderate: slope.
HyB2---------- Hiwassee	Moderate: too clayey.	Slight---------	Slight---------	Moderate: slope.	Moderate: low strength.	Slight.
KrB---------- Kirksey	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Moderate: low strength, wetness.	Moderate: wetness.
LaB---------- Lakeland	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: too sandy.
LaC---------- Lakeland	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope, too sandy.
LaE---------- Lakeland	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
LTE*: Lakeland---------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
LTE*: Troup	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
MbA Marlboro	Moderate: too clayey.	Slight	Slight	Slight	Moderate: low strength.	Slight.
MbB Marlboro	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength.	Slgiht.
MeB Mecklenburg	Severe: too clayey.	Moderate: shrink-swell.	Moderate: depth to rock, shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
MeC Mecklenburg	Severe: too clayey.	Moderate: shrink-swell.	Moderate: depth to rock, slope, shrink-swell.	Moderate: slope, shrink-swell.	Severe: low strength.	Moderate: slope.
NaD Nason	Moderate: slope, too clayey.	Moderate: slope, shrink-swell,	Moderate: slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: slope.
NaE Nason	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, low strength.	Severe: slope.
NoA Norfolk	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: wetness.	Slight	Slight.
NoB Norfolk	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Slight.
NoC Norfolk	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
OrA Orangeburg	Slight	Slight	Slight	Slight	Slight	Slight.
OrB Orangeburg	Slight	Slight	Slight	Moderate: slope.	Slight	Slight.
Re Rembert	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods, low strength.	Severe: wetness, floods.
Rv Riverview	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.
To Toccoa	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.
TrB Troup	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: too sandy.
TrC Troup	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: too sandy, slope.
TWD*: Troup	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: too sandy, slope.
Wagram	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: too sandy, slope.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
TWD*: Lakeland	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: too sandy, slope.
WaB---- Wagram	Slight	Slight	Slight	Slight	Slight	Moderate: too sandy.
WaC---- Wagram	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: too sandy, slope.
WeE---- Wateree	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
WkC, WkD---- Wilkes	Moderate: slope, depth to rock.	Moderate: slope, shrink-swell.	Moderate: slope, depth to rock, shrink-swell.	Severe: slope.	Moderate: slope.	Moderate: slope.
WkE---- Wilkes	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
WnB---- Winnsboro	Severe: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Slight.
WnC, WnD---- Winnsboro	Severe: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--SANITARY FACILITIES

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," "good," "fair," and other terms]

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
ApB Appling	Moderate: percs slowly.	Moderate: slope, seepage.	Moderate: too clayey.	Slight	Fair: too clayey.
ApC Appling	Moderate: slope, percs slowly.	Severe: slope, seepage.	Moderate: too clayey.	Moderate: slope.	Fair: too clayey, slope.
CaB Cataula	Severe: percs slowly.	Moderate: slope.	Moderate: too clayey.	Slight	Fair: too clayey.
CaC Cataula	Severe: percs slowly.	Severe: slope.	Moderate: too clayey.	Moderate: slope.	Fair: too clayey, slope.
CcB Cecil	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey, seepage.	Slight	Fair: too clayey.
CcC, CcD, CeC2 Cecil	Moderate: percs slowly, slope.	Severe: slope.	Moderate: too clayey, seepage.	Moderate: slope.	Fair: too clayey, slope.
CpE*: Cecil	Severe: slope.	Severe: slope.	Moderate: too clayey, seepage, slope.	Severe: slope.	Poor: slope.
Pacolet	Severe: slope.	Severe: slope.	Moderate: too clayey, slope.	Severe: slope.	Poor: slope.
Cw Chewacla	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Good.
DaB2 Davidson	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
DaC2 Davidson	Moderate: slope, percs slowly.	Severe: slope.	Moderate: too clayey.	Moderate: slope.	Fair: too clayey, slope.
DuB Durham	Slight	Moderate: seepage.	Slight	Slight	Fair: too sandy.
EN* Enoree	Severe: floods, wetness.	Severe: seepage, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Poor: wetness.
EuA Eustis	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: too sandy.
FaA Faceville	Slight	Moderate: seepage.	Moderate: too clayey.	Slight	Fair: too clayey.
FaB Faceville	Slight	Moderate: slope, seepage.	Moderate: too clayey.	Slight	Fair: too clayey.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
FaC---------- Faceville	Slight----------	Severe: slope.	Moderate: too clayey.	Slight----------	Fair: too clayey.
GeB---------- Georgeville	Moderate: percs slowly.	Moderate: slope, seepage.	Moderate: too clayey.	Slight----------	Poor: too clayey.
GeC---------- Georgeville	Moderate: percs slowly, slope.	Severe: slope.	Moderate: too clayey.	Moderate: slope.	Poor: too clayey.
GgB2--------- Georgeville	Moderate: percs slowly.	Moderate: slope, seepage.	Moderate: too clayey.	Slight----------	Poor: too clayey.
GoC, GoD, GoF------- Goldston	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: seepage.	Poor: small stones, thin layer.
GuD---------- Gundy	Severe: depth to rock.	Severe: slope.	Severe: depth to rock, too clayey.	Moderate: slope.	Poor: too clayey.
GuE---------- Gundy	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, too clayey.	Severe: slope.	Poor: too clayey, slope.
HeB---------- Helena	Severe: percs slowly, wetness.	Moderate: slope.	Severe: too clayey.	Slight----------	Poor: too clayey, hard to pack.
HeC---------- Helena	Severe: percs slowly, wetness.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
HrB---------- Herndon	Moderate: percs slowly.	Moderate: seepage.	Moderate: too clayey.	Slight----------	Poor: too clayey.
HrC---------- Herndon	Moderate: percs slowly, slope.	Severe: slope.	Moderate: too clayey.	Moderate: slope.	Poor: too clayey.
HwB---------- Hiwassee	Moderate: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight----------	Fair: too clayey.
HwC, HwD---------- Hiwassee	Moderate: percs slowly, slope.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Fair: too clayey.
HyB2--------- Hiwassee	Moderate: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight----------	Fair: too clayey.
KrB---------- Kirksey	Severe: wetness, depth to rock, percs slowly.	Severe: wetness.	Severe: depth to rock, wetness.	Moderate: wetness.	Fair: area reclaim, too clayey, wetness.
LaB---------- Lakeland	Slight----------	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage.
LaC---------- Lakeland	Moderate: slope.	Severe: seepage, slope.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
LaE---- Lakeland	Severe: slope.	Severe: seepage, slope.	Severe: seepage, too sandy.	Severe: seepage, slope.	Poor: too sandy, slope, seepage.
LTE*: Lakeland----	Severe: slope.	Severe: seepage, slope.	Severe: seepage, too sandy.	Severe: seepage, slope.	Poor: too sandy, slope, seepage.
Troup----	Severe: slope.	Severe: seepage, slope.	Severe: seepage, too sandy.	Severe: seepage, slope.	Poor: too sandy, slope.
MbA---- Marlboro	Moderate: percs slowly.	Moderate: seepage.	Moderate: too clayey.	Slight----	Fair: too clayey.
MbB---- Marlboro	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight----	Fair: too clayey.
MeB---- Mecklenburg	Severe: percs slowly.	Moderate: slope, depth to rock.	Severe: too clayey, depth to rock.	Slight----	Poor: thin layer.
MeC---- Mecklenburg	Severe: percs slowly.	Severe: slope.	Severe: too clayey, depth to rock.	Moderate: slope.	Poor: thin layer.
NaD---- Nason	Moderate: slope, depth to rock.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey.
NaE---- Nason	Severe: slope.	Severe: slope.	Severe: too clayey.	Severe: slope.	Poor: slope, too clayey.
NoA---- Norfolk	Moderate: wetness.	Moderate: seepage, wetness.	Moderate: wetness.	Moderate: wetness.	Good.
NoB---- Norfolk	Moderate: wetness.	Moderate: slope, seepage.	Moderate: wetness.	Moderate: wetness.	Good.
NoC---- Norfolk	Moderate: slope, wetness.	Severe: slope.	Moderate: slope.	Moderate: slope.	Fair: slope.
OrA---- Orangeburg	Slight----	Moderate: seepage.	Slight----	Slight----	Good.
OrB---- Orangeburg	Slight----	Moderate: slope, seepage.	Slight----	Slight----	Good.
Re---- Rembert	Severe: wetness, percs slowly, floods.	Moderate: seepage.	Severe: wetness, floods.	Severe: wetness, floods.	Poor: wetness, too clayey.
Rv---- Riverview	Severe: floods.	Severe: floods, seepage.	Severe: floods, seepage.	Severe: floods, seepage.	Fair: thin layer.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
To Toccoa	Severe: floods.	Severe: floods, seepage.	Severe: floods, seepage.	Severe: floods, seepage.	Good.
TrB Troup	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy.
TrC Troup	Moderate: slope.	Severe: seepage, slope.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy.
TWD*: Troup	Moderate: slope.	Severe: seepage, slope.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy.
Wagram	Moderate: slope.	Severe: slope, seepage.	Slight	Slight	Fair: slope, too sandy.
Lakeland	Moderate: slope.	Severe: seepage, slope.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage.
WaB Wagram	Slight	Severe: seepage.	Slight	Slight	Fair: too sandy.
WaC Wagram	Moderate: slope.	Severe: slope, seepage.	Slight	Slight	Fair: slope, too sandy.
WeE Wateree	Severe: slope, depth to rock.	Severe: seepage, slope.	Severe: depth to rock, seepage.	Severe: seepage, slope.	Poor: slope.
WkC, WkD Wilkes	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock, seepage.	Severe: seepage.	Poor: thin layer.
WkE Wilkes	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, seepage, slope.	Severe: slope, seepage.	Poor: thin layer.
WnB Winnsboro	Severe: percs slowly.	Moderate: slope.	Severe: depth to rock.	Slight	Fair: thin layer.
WnC, WnD Winnsboro	Severe: percs slowly.	Severe: slope.	Severe: depth to rock.	Moderate: slope.	Fair: thin layer, slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 13.--CONSTRUCTION MATERIALS

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and "poor"]

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
ApB, ApC---------- Appling	Fair: low strength, area reclaim.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer, area reclaim.
CaB, CaC---------- Cataula	Poor: low strength, thin layer.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: thin layer.
CcB, CcC, CcD, CeC2--- Cecil	Fair: low strength, shrink-swell.	Poor: excess fines.	Poor: excess fines.	Poor: thin layer.
CpE*: Cecil----------	Fair: low strength, slope, shrink-swell.	Poor: excess fines.	Poor: excess fines.	Poor: slope, thin layer.
Pacolet----------	Fair: low strength, slope.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: thin layer, slope.
Cw---------- Chewacla	Poor: wetness, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Good.
DaB2---------- Davidson	Poor: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: too clayey.
DaC2---------- Davidson	Poor: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: too clayey, slope.
DuB---------- Durham	Good----------	Unsuited: excess fines.	Unsuited: excess fines.	Fair: too sandy.
EN*---------- Enoree	Poor: wetness.	Poor: excess fines.	Unsuited: excess fines.	Poor: wetness.
EuA---------- Eustis	Good----------	Poor: excess fines.	Unsuited: excess fines.	Poor: too sandy.
FaA, FaB, FaC--------- Faceville	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: too clayey.
GeB, GeC, GgB2-------- Georgeville	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: thin layer.
GoC, GoD, GoF--------- Goldston	Poor: thin layer, area reclaim.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: small stones, area reclaim.
GuD---------- Gundy	Poor: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: thin layer.
GuE---------- Gundy	Poor: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: thin layer, slope.
HeB---------- Helena	Poor: shrink-swell, low strength.	Poor: excess fines.	Unsuited: excess fines.	Good.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
HeC---------- Helena	Poor: shrink-swell, low strength.	Poor: excess fines.	Unsuited: excess fines.	Fair: slope.
HrB, HrC---------- Herndon	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer.
HwB, HwC, HwD, HyB2--- Hiwassee	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: thin layer, too clayey.
KrB---------- Kirksey	Fair: low strength, wetness, area reclaim.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: too clayey, small stones.
LaB, LaC---------- Lakeland	Good----------	Good----------	Unsuited: excess fines.	Poor: too sandy.
LaE---------- Lakeland	Fair: slope.	Good----------	Unsuited: excess fines.	Poor: too sandy, slope.
LTE*: Lakeland----------	Fair: slope.	Good----------	Unsuited: excess fines.	Poor: too sandy, slope.
Troup----------	Fair: slope.	Fair: excess fines.	Unsuited: excess fines.	Poor: slope, too sandy.
MbA, MbB---------- Marlboro	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer.
MeB, MeC---------- Mecklenburg	Poor: low strength.	Poor: excess fines.	Unsuited: excess fines.	Poor: thin layer.
NaD---------- Nason	Poor: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: slope, thin layer.
NaE---------- Nason	Poor: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: slope.
NoA, NoB---------- Norfolk	Good----------	Poor: excess fines.	Unsuited: excess fines.	Fair: too sandy.
NoC---------- Norfolk	Good----------	Poor: excess fines.	Unsuited: excess fines.	Fair: too sandy, slope.
OrA, OrB---------- Orangeburg	Good----------	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer.
Re---------- Rembert	Poor: wetness, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness.
Rv---------- Riverview	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Good.
To---------- Toccoa	Good----------	Poor: excess fines.	Unsuited: excess fines.	Good.
TrB, TrC---------- Troup	Good----------	Fair: excess fines.	Unsuited: excess fines.	Poor: too sandy.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
TWD*:				
Troup	Good	Fair: excess fines.	Unsuited: excess fines.	Poor: too sandy.
Wagram	Good	Poor: excess fines.	Unsuited: excess fines.	Poor: too sandy, slope.
Lakeland	Good	Good	Unsuited: excess fines.	Poor: too sandy.
WaB Wagram	Good	Poor: excess fines.	Unsuited: excess fines.	Poor: too sandy.
WaC Wagram	Good	Poor: excess fines.	Unsuited: excess fines.	Poor: too sandy, slope.
WeE Wateree	Poor: thin layer.	Poor: excess fines, thin layer.	Unsuited: excess fines.	Poor: slope.
WkC, WkD Wilkes	Poor: thin layer.	Poor: excess fines.	Unsuited: excess fines.	Poor: thin layer.
WkE Wilkes	Poor: slope, thin layer.	Poor: excess fines.	Unsuited: excess fines.	Poor: thin layer, slope.
WnB Winnsboro	Poor: low strength, shrink-swell.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: small stones.
WnC, WnD Winnsboro	Poor: low strength, shrink-swell.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: small stones, slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 14.--WATER MANAGEMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe"]

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
ApB---- Appling	Moderate: seepage.	Slight----	Not needed----	Favorable----	Favorable----	Favorable.
ApC---- Appling	Moderate: seepage.	Slight----	Not needed----	Slope----	Slope----	Favorable.
CaB, CaC---- Cataula	Slight----	Severe: hard to pack, piping.	Not needed----	Rooting depth, slope, percs slowly.	Slope, percs slowly, rooting depth.	Slope, percs slowly, rooting depth.
CcB, CcC, CcD, CeC2---- Cecil	Moderate: seepage.	Moderate: hard to pack.	Not needed----	Slope, slow intake.	Slope----	Slope.
CpE*: Cecil----	Severe: slope.	Moderate: hard to pack.	Not needed----	Slope, slow intake.	Slope----	Slope.
Pacolet----	Severe: slope.	Moderate: hard to pack.	Not needed----	Slope----	Slope----	Slope.
Cw---- Chewacla	Moderate: seepage.	Severe: hard to pack, piping, wetness.	Poor outlets, floods.	Wetness, floods.	Not needed----	Wetness.
DaB2---- Davidson	Moderate: seepage.	Moderate: hard to pack.	Not needed----	Favorable----	Favorable----	Favorable.
DaC2---- Davidson	Moderate: seepage.	Moderate: hard to pack.	Not needed----	Slope----	Favorable----	Favorable.
DuB---- Durham	Moderate: seepage.	Slight----	Not needed----	Slope, fast intake.	Too sandy----	Slope.
EN*---- Enoree	Severe: seepage.	Moderate: piping.	Floods, wetness.	Floods, wetness.	Not needed----	Not needed.
EuA---- Eustis	Severe: seepage.	Moderate: seepage, erodes easily.	Not needed----	Droughty, fast intake.	Not needed----	Droughty.
FaA, FaB---- Faceville	Moderate: seepage.	Slight----	Not needed----	Favorable----	Favorable----	Favorable.
FaC---- Faceville	Moderate: seepage.	Slight----	Not needed----	Slope----	Favorable----	Favorable.
GeB---- Georgeville	Moderate: slope, seepage.	Moderate: compressible, erodes easily.	Not needed----	Complex slope, erodes easily.	Favorable----	Favorable.
GeC---- Georgeville	Moderate: seepage.	Moderate: compressible, erodes easily.	Not needed----	Complex slope, erodes easily.	Complex slope, erodes easily.	Slope, erodes easily.
GgB2---- Georgeville	Moderate: seepage.	Moderate: compressible, erodes easily.	Not needed----	Complex slope, erodes easily.	Favorable----	Favorable.
GoC, GoD, GoF---- Goldston	Severe: seepage.	Severe: thin layer.	Not needed----	Fast intake, slope.	Depth to rock, complex slope.	Slope.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
GuD, GuE---------- Gundy	Moderate: seepage, depth to rock.	Severe: hard to pack.	Not needed-----	Slope----------	Slope----------	Slope.
HeB---------- Helena	Moderate: depth to rock.	Moderate: thin layer, hard to pack, wetness.	Percs slowly---	Percs slowly, wetness.	Slope, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
HeC---------- Helena	Moderate: depth to rock.	Moderate: thin layer, hard to pack, wetness.	Slope, percs slowly.	Slope, percs slowly.	Slope, wetness, percs slowly.	Slope, percs slowly, erodes easily.
HrB---------- Herndon	Moderate: seepage.	Severe: compressible, erodes easily.	Not needed-----	Complex slope, erodes easily.	Favorable------	Favorable.
HrC---------- Herndon	Moderate: seepage.	Severe: compressible, erodes easily.	Not needed-----	Complex slope, erodes easily.	Complex slope	Erodes easily, slope.
HwB---------- Hiwassee	Moderate: seepage.	Moderate: compressible.	Not needed-----	Favorable------	Favorable------	Favorable.
HwC---------- Hiwassee	Moderate: seepage.	Moderate: compressible.	Not needed-----	Slope----------	Favorable------	Favorable.
HwD---------- Hiwassee	Moderate: seepage.	Moderate: compressible.	Not needed-----	Slope----------	Slope----------	Slope.
HyB2---------- Hiwassee	Moderate: seepage.	Moderate: compressible.	Not needed-----	Favorable------	Favorable------	Favorable.
KrB---------- Kirksey	Moderate: seepage, depth to rock.	Severe: piping.	Slope----------	Erodes easily, slope.	Erodes easily, wetness.	Erodes easily.
LaB, LaC, LaE----- Lakeland	Severe: seepage.	Severe: seepage, piping.	Not needed-----	Droughty, seepage, fast intake.	Not needed-----	Not needed.
LTE*:						
Lakeland---------	Severe: seepage.	Severe: seepage, piping.	Not needed-----	Droughty, seepage, fast intake.	Not needed-----	Not needed.
Troup----------	Severe: seepage.	Severe: piping.	Not needed-----	Droughty, fast intake, slope.	Too sandy, slope.	Droughty, slope.
MbA---------- Marlboro	Moderate: seepage.	Slight---------	Not needed-----	Favorable------	Favorable------	Favorable.
MbB---------- Marlboro	Moderate: seepage.	Slight---------	Not needed-----	Slope----------	Favorable------	Favorable.
MeB, MeC---------- Mecklenburg	Slight---------	Severe: hard to pack.	Not needed-----	Slow intake, percs slowly, slope.	Slope, percs slowly.	Percs slowly, slope.
NaD, NaE---------- Nason	Moderate: depth to rock, seepage.	Moderate: compressible.	Not needed-----	Erodes easily, slope.	Slope----------	Erodes easily, slope.
NoA, NoB, NoC----- Norfolk	Moderate: seepage.	Slight---------	Not needed-----	Fast intake, slope.	Slope----------	Slope.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
OrA---------- Orangeburg	Moderate: seepage.	Slight---------	Not needed-----	Fast intake----	Not needed-----	Favorable.
OrB---------- Orangeburg	Moderate: seepage.	Slight---------	Not needed-----	Fast intake----	Favorable------	Favorable.
Re---------- Rembert	Slight---------	Slight---------	Wetness, floods, poor outlets.	Wetness, floods.	Not needed-----	Not needed.
Rv---------- Riverview	Moderate: seepage.	Moderate: piping.	Not needed-----	Floods---------	Favorable------	Favorable.
To---------- Toccoa	Severe: seepage.	Moderate: piping.	Not needed-----	Floods, seepage.	Not needed-----	Not needed.
TrB, TrC---------- Troup	Severe: seepage.	Severe: piping.	Not needed-----	Droughty, fast intake, slope.	Too sandy, slope.	Droughty, slope.
TWD*: Troup----------	Severe: seepage.	Severe: piping.	Not needed-----	Droughty, fast intake, slope.	Too sandy, slope.	Droughty, slope.
Wagram----------	Severe: seepage.	Moderate: piping.	Not needed-----	Slope, fast intake.	Slope, too sandy.	Slope.
Lakeland---------	Severe: seepage.	Severe: seepage, piping.	Not needed-----	Droughty, seepage, fast intake.	Not needed-----	Not needed.
WaB---------- Wagram	Moderate: seepage.	Moderate: piping.	Not needed-----	Fast intake----	Slope, too sandy.	Favorable.
WaC---------- Wagram	Severe: seepage.	Moderate: piping.	Not needed-----	Slope, fast intake.	Slope, too sandy.	Slope.
WeE---------- Wateree	Severe: seepage.	Moderate: seepage, thin layer.	Not needed-----	Slope, droughty, fast intake.	Depth to rock, slope.	Droughty, depth to rock, slope.
WkC, WkD, WkE----- Wilkes	Slight---------	Moderate: thin layer.	Not needed-----	Slow intake, slope.	Depth to rock, slope.	Slope.
WnB---------- Winnsboro	Slight---------	Moderate: thin layer.	Not needed-----	Percs slowly---	Percs slowly---	Percs slowly.
WnC---------- Winnsboro	Slight---------	Moderate: thin layer.	Not needed-----	Percs slowly, slope.	Percs slowly---	Percs slowly, slope.
WnD---------- Winnsboro	Slight---------	Moderate: thin layer.	Not needed-----	Percs slowly, slope.	Percs slowly, slope.	Percs slowly, slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 15.--ENGINEERING INDEX PROPERTIES

[The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
ApB, ApC---------- Appling	0-10	Sandy loam------	SM, SM-SC	A-2	0-5	86-100	80-100	55-75	15-35	<27	NP-5
	10-45	Sandy clay, clay loam, clay.	MH, CL, ML, SC	A-7	0-5	95-100	95-100	70-92	51-80	41-74	15-30
	45-56	Sandy clay, clay loam, sandy clay loam.	SC, CL	A-4, A-6	0-5	95-100	95-100	70-90	40-75	25-45	8-22
	56-72	Weathered bedrock.	---	---	---	---	---	---	---	---	---
CaB, CaC---------- Cataula	0-7	Sandy loam------	SM, SM-SC	A-2, A-4	0-3	95-100	90-100	65-85	20-40	<20	NP-7
	7-26	Clay, clay loam, sandy clay.	MH, ML, CL, CH	A-7, A-6	0	98-100	90-100	80-95	60-85	36-72	11-38
	26-53	Sandy clay loam, sandy clay, clay loam.	MH, ML	A-5, A-7	0	98-100	90-100	85-95	51-90	41-75	2-30
	53-70	Sandy clay loam, clay loam.	CL, ML, CL-ML, SC	A-4, A-6	0-1	95-100	90-100	70-100	40-70	20-40	2-20
CcB, CcC, CcD------ Cecil	0-6	Sandy loam------	SM, SM-SC	A-2, A-4	0	84-100	80-100	67-90	26-42	<30	NP-6
	6-57	Clay------------	MH, ML	A-7, A-5	0	97-100	92-100	72-99	55-95	41-80	9-37
	57-70	Weathered bedrock.	---	---	---	---	---	---	---	---	---
CeC2---------- Cecil	0-3	Sandy clay loam	SM, SC, CL, ML	A-4, A-6	0	74-100	72-100	68-95	38-81	21-35	3-15
	3-54	Clay------------	MH, ML	A-7, A-5	0	97-100	92-100	72-99	55-95	41-80	9-37
	54-70	Weathered bedrock.	---	---	---	---	---	---	---	---	---
CpE*:											
Cecil----------	0-6	Sandy loam------	SM, SM-SC	A-2, A-4	0	84-100	80-100	67-90	26-42	<30	NP-6
	6-57	Clay------------	MH, ML	A-7, A-5	0	97-100	92-100	72-99	55-95	41-80	9-37
	57-70	Weathered bedrock.	---	---	---	---	---	---	---	---	---
Pacolet----------	0-8	Sandy loam------	SM, SM-SC	A-2	0-2	85-100	80-100	60-80	20-35	<36	NP-10
	8-40	Sandy clay, clay loam, clay.	ML, MH	A-6, A-7	0	80-100	80-100	60-95	51-75	38-65	11-30
	40-62	Weathered bedrock.	---	---	---	---	---	---	---	---	---
Cw---------- Chewacla	0-6	Loam------------	ML	A-4, A-5, A-6, A-7	0	98-100	95-100	70-100	55-90	36-50	4-18
	6-30	Sandy clay loam, loam, sandy loam.	SM, CL-ML, SM-SC, ML	A-4	0	96-100	95-100	60-80	36-70	<35	NP-7
	30-72	Silt loam, clay loam, silty clay loam.	ML, MH	A-4, A-5, A-6, A-7	0	75-100	65-100	60-100	51-98	32-61	4-28
DaB2, DaC2---------- Davidson	0-5	Sandy clay loam	CL, SC, CL-ML, SM	A-6, A-4	0	94-100	84-100	75-95	40-70	25-40	5-18
	5-70	Clay------------	CL, CH, ML, MH	A-7, A-6	0	96-100	95-100	85-100	65-85	35-65	15-35

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
DuB----------	0-9	Loamy sand------	SM	A-2	0-3	95-100	90-100	50-85	13-30	<20	NP-3
Durham	9-41	Sandy clay loam, clay loam.	SC, CL	A-2, A-6, A-7	0	100	95-100	70-90	30-55	20-47	10-25
	41-49	Sandy clay loam, sandy loam.	SM, SC, SM-SC	A-2, A-4	0	100	95-100	50-85	18-49	<30	NP-10
	49-60	Variable--------	---	---	---	---	---	---	---	---	---
EN*----------	0-4	Sandy loam------	SM, SM-SC	A-2, A-4	0	98-100	95-100	55-75	20-45	<30	NP-7
Enoree	4-35	Sandy loam, loam	SM, SM-SC, ML, CL-ML	A-2, A-4	0	95-100	90-100	50-95	25-60	<40	NP-10
	35-65	Sandy loam, loam, loamy sand.	SM, SM-SC, ML, CL-ML	A-2, A-4	0	95-100	90-100	50-90	15-55	<40	NP-10
EuA----------	0-9	Loamy sand------	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	5-16	---	NP
Eustis	9-74	Loamy fine sand, loamy sand.	SM	A-2-4	0	100	100	90-100	15-25	---	NP
FaA, FaB, FaC------	0-6	Sandy loam------	SM, SM-SC	A-2, A-4	0	90-100	85-100	72-97	17-38	<25	NP-5
Faceville	6-70	Sandy clay, clay, clay loam.	CL, SC, CH	A-6, A-7	0	98-100	95-100	75-99	42-72	25-60	11-32
GeB, GeC----------	0-6	Silt loam-------	ML, CL-ML	A-4	0-3	90-100	85-100	65-100	51-98	<40	NP-10
Georgeville	6-42	Silty clay, silty clay loam, clay loam.	MH, ML	A-7-5	0	95-100	95-100	90-100	75-98	41-75	15-35
	42-53	Silty clay loam, silt loam, clay loam.	MH	A-7-5	0	95-100	90-100	65-100	60-98	50-75	15-35
	53-72	Silt loam-------	ML, CL, CL-ML	A-4, A-5, A-6, A-7	0-5	90-100	90-100	65-100	60-95	<45	NP-13
GgB2----------	0-4	Silty clay loam	CL, ML	A-6, A-7-6	0-3	95-100	95-100	90-100	65-100	30-49	11-20
Georgeville	4-40	Silty clay, silty clay loam, clay loam.	MH, ML	A-7-5	0	95-100	95-100	90-100	75-98	41-75	15-35
	40-51	Silty clay loam, silt loam, clay loam.	MH	A-7-5	0	95-100	90-100	65-100	60-98	50-75	15-35
	51-72	Silt loam-------	ML, CL, CL-ML	A-4	0-5	90-100	90-100	65-100	60-95	<30	NP-10
GoC, GoD, GoF------	0-4	Slaty silt loam	GM, SM, ML, GM-GC	A-4	5-20	60-80	55-75	50-70	40-60	<35	NP-10
Goldston	4-15	Slaty silt loam, slaty very fine sandy loam.	GM, SM, ML, GM-GC	A-2, A-4, A-5	10-30	55-100	50-92	45-90	25-80	<45	NP-10
	15-36	Slaty silt loam	GM	A-2	20-40	25-40	25-40	20-40	15-35	<20	NP-3
	36-40	Weathered bedrock.	---	---	---	---	---	---	---	---	---
GuD, GuE----------	0-4	Silt loam-------	ML, SM	A-4	0-5	80-100	75-100	60-100	40-90	<40	NP-10
Gundy	4-32	Clay, clay loam, silty clay.	MH, CH, ML, CL	A-6, A-7	0-5	75-100	70-100	60-100	55-95	35-60	11-25
	32-52	Slaty clay loam, slaty silty clay loam, slaty silt loam.	SM, ML, GM	A-2, A-4, A-6, A-7	0-10	65-100	55-90	45-90	30-85	30-50	5-20
	52-60	Weathered bedrock.	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
HeB, HeC---------- Helena	0-13	Sandy loam------	SM, SM-SC, SC	A-2, A-4	0	95-100	90-100	51-86	27-46	<30	NP-9
	13-46	Clay loam, sandy clay, clay.	CH, MH	A-7	0	95-100	95-100	73-93	56-80	50-85	24-50
	46-61	Variable--------	---	---	---	---	---	---	---	---	---
HrB, HrC---------- Herndon	0-6	Very fine sandy loam.	ML, CL-ML	A-4	0	90-100	90-100	80-98	65-90	<35	NP-10
	6-55	Silty clay loam, silty clay, clay.	MH, ML	A-7	0	98-100	95-100	95-99	80-98	41-70	13-30
	55-70	Silt loam, loam, fine sandy loam.	MH, ML	A-7, A-5	0-2	90-100	85-100	80-99	70-95	41-70	9-36
HwB, HwC, HwD------ Hiwassee	0-5	Sandy loam------	SM, SM-SC	A-4, A-2	0-2	95-100	90-100	70-95	30-50	<35	NP-7
	5-70	Clay, silty clay, clay loam.	CL, ML, MH	A-7-5, A-7-6, A-6	0-2	95-100	95-100	80-100	70-95	36-52	12-20
HyB2---------- Hiwassee	0-4	Sandy clay loam	CL, ML, CL-ML	A-7-6, A-6, A-4	0-2	95-100	95-100	90-100	50-85	25-50	5-23
	4-70	Clay, silty clay, clay loam.	CL, ML, MH	A-7-5, A-7-6, A-6	0-2	95-100	95-100	80-100	70-95	36-52	12-20
KrB---------- Kirksey	0-6	Silt loam-------	ML	A-4	0-2	90-100	88-100	80-95	70-90	<30	NP-7
	6-36	Silty clay loam, clay loam, silt loam.	CL, CL-ML	A-4, A-6	0-1	95-100	90-100	90-98	80-95	20-40	4-15
	36-42	Silt loam, fine sandy loam, loam.	ML	A-4, A-6	0-2	95-100	90-100	85-96	55-90	<40	NP-12
	42-50	Weathered------- bedrock.	---	---	---	---	---	---	---	---	---
	50	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
LaB, LaC, LaE------ Lakeland	0-55	Sand------------	SP-SM	A-3, A-2-4	0	90-100	90-100	60-100	5-12	---	NP
	55-82	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	90-100	90-100	50-100	1-12	---	NP
LTE*:											
Lakeland----------	0-55	Sand------------	SP-SM	A-3, A-2-4	0	90-100	90-100	60-100	5-12	---	NP
	55-82	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	90-100	90-100	50-100	1-12	---	NP
Troup----------	0-53	Sand------------	SM, SP-SM	A-2	0	100	100	50-75	10-30	---	NP
	53-61	Sandy clay loam, sandy loam.	SC, SM-SC, CL-ML, CL	A-4, A-2	0	95-100	95-100	70-90	24-55	19-30	4-10
MbA, MbB---------- Marlboro	0-8	Sandy loam------	SM, SM-SC, ML, CL-ML	A-2, A-4	0	98-100	95-100	75-100	25-60	<35	NP-7
	8-48	Sandy clay, clay loam, clay.	CL, ML	A-4, A-6, A-7	0	98-100	95-100	78-100	51-70	25-48	8-20
	48-72	Sandy clay loam, sandy clay, clay.	CL, ML, SM, SC	A-4, A-6, A-7	0	98-100	95-100	74-100	45-70	24-48	8-20

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
MeB, MeC---------- Mecklenburg	0-8	Sandy loam------	ML, SM	A-4, A-6, A-7-6	0-5	90-100	80-100	65-90	36-65	<45	NP-15
	8-41	Clay------------	CH, MH	A-7	0-5	90-100	85-100	80-100	75-95	51-75	24-45
	41-50	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	50	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
NaD, NaE---------- Nason	0-4	Loam------------	ML, CL, CL-ML, SM	A-4	0-5	80-100	75-100	55-95	35-85	<38	NP-10
	4-35	Silty clay loam, silty clay, clay.	CL, CH, MH	A-7	0-5	80-100	75-100	70-95	65-90	40-60	15-30
	35-70	Channery silt loam, silt loam.	CL, ML SC, GC	A-2, A-4, A-6	0-5	50-80	45-75	40-75	30-90	20-40	4-13
NoA, NoB---------- Norfolk	0-15	Loamy sand------	SM	A-2	0	95-100	92-100	50-91	13-30	<20	NP
	15-71	Sandy loam, sandy clay loam, clay loam.	SC, SM-SC, CL, CL-ML	A-2, A-4, A-6	0	95-100	91-100	70-96	30-55	20-38	4-15
NoC---------- Norfolk	0-15	Loamy sand------	SM	A-2	0	95-100	92-100	50-91	13-30	<20	NP
	15-71	Sandy loam, sandy clay loam, clay loam.	SC, SM-SC, CL, CL-ML	A-2, A-4, A-6	0	95-100	91-100	70-96	30-55	20-38	4-15
OrA, OrB---------- Orangeburg	0-16	Loamy sand------	SM	A-2	0	98-100	95-100	60-75	14-27	---	NP
	16-23	Sandy loam------	SM	A-2	0	98-100	95-100	70-84	25-35	<30	NP-4
	23-54	Sandy clay loam	SC, CL	A-6, A-4	0	98-100	95-100	71-91	38-55	22-40	8-19
	54-72	Sandy clay loam, sandy clay.	SC, CL	A-6, A-4	0	98-100	95-100	70-97	40-65	25-40	8-21
Re---------- Rembert	0-5	Loam------------	CL, ML	A-4, A-6	0	100	95-100	70-98	51-80	<40	NP-15
	5-27	Clay, sandy clay, clay loam.	CL	A-6, A-7	0	100	98-100	85-98	55-85	35-50	15-25
	27-73	Sandy clay loam, clay loam, sandy clay.	SC, SM-SC, CL, CL-ML	A-2, A-4, A-6	0	100	95-100	80-98	30-60	<35	4-15
Rv---------- Riverview	0-40	Silt loam-------	CL, CL-ML	A-4	0	100	100	90-100	60-80	<30	5-10
	40-72	Loamy fine sand, sandy loam, silty clay loam.	SM, SC, ML, CL	A-2, A-4, A-6	0	100	100	80-95	20-80	<40	NP-20
To---------- Toccoa	0-7	Sandy loam------	SM, ML	A-2, A-4	0	98-100	95-100	85-100	25-62	<30	NP-3
	7-77	Sandy loam, loam	SM, ML, CL-ML, SM-SC	A-2, A-4	0	95-100	90-100	60-100	30-80	<30	NP-6
TrB, TrC---------- Troup	0-53	Sand------------	SM, SP-SM	A-2, A-3	0	100	100	50-75	10-30	---	NP
	53-81	Sandy clay loam, sandy loam.	SC, SM-SC, CL-ML, CL	A-4, A-2 A-6	0	95-100	95-100	70-90	24-55	19-34	4-12

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
TWD*:											
Troup	0-53	Sand	SM, SP-SM	A-2	0	100	100	50-75	10-30	---	NP
	53-81	Sandy clay loam, sandy loam.	SC, SM-SC, CL-ML, CL	A-4, A-2	0	95-100	95-100	70-90	24-55	19-30	4-10
Wagram	0-28	Sand	SM, SP-SM	A-2	0	100	98-100	50-85	12-35	---	NP
	28-70	Sandy clay loam, sandy loam.	SC	A-2, A-4 A-6, A-7	0	100	98-100	80-95	31-49	21-41	8-25
Lakeland	0-55	Sand	SP-SM	A-3, A-2-4	0	90-100	90-100	60-100	5-12	---	NP
	55-82	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	90-100	90-100	50-100	1-12	---	NP
WaB, WaC	0-28	Sand	SM	A-2	0	100	98-100	50-85	15-35	---	NP
Wagram	28-70	Sandy clay loam, sandy loam.	SC	A-2, A-4, A-6	0	100	98-100	80-95	31-49	21-40	8-25
WeE	0-13	Sandy loam	SM	A-2	0-15	80-100	70-95	45-80	25-35	<30	NP-7
Wateree	13-23	Sandy loam	SM	A-2, A-4	0-15	85-100	75-98	50-80	25-40	<30	NP-7
	23-38	Sand, loamy sand, sandy loam.	SP-SM, SM	A-1, A-2, A-3	0-15	70-100	65-98	40-80	5-30	---	NP
	38-48	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	48	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
WkC, WkD	0-6	Sandy loam	ML, SM, SM-SC	A-2, A-4	0-10	90-100	80-100	60-92	25-55	<35	NP-7
Wilkes	6-25	Clay loam, clay, sandy clay loam.	CL, CH, MH	A-6, A-7	0-10	80-100	80-100	75-95	50-80	30-60	11-32
	25-44	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	44	Unweathered bedrock.									
WkE	0-6	Sandy loam	ML, SM, SM-SC	A-2, A-4	0-10	90-100	80-100	60-92	25-55	<35	NP-7
Wilkes	6-25	Clay loam, clay, sandy clay loam.	CL, CH, MH	A-6, A-7	0-10	80-100	80-100	75-95	50-80	30-60	11-32
	25-40	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	44	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
WnB, WnC, WnD	0-10	Fine sandy loam	SM, ML	A-2, A-4	0-5	90-100	85-100	60-85	25-74	<35	NP-8
Winnsboro	10-35	Clay, clay loam	CH, MH	A-7	0-5	90-100	85-100	75-95	65-95	51-90	25-55
	35-61	Loam, sandy clay loam, sandy loam.	CL, SC, ML, SM	A-2, A-4 A-6, A-7	0-5	90-100	85-100	70-95	22-75	25-48	3-15

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS

[The symbol > means more than. Absence of an entry indicates that data were not available or were not estimated]

Map symbol and soil name	Depth	Permeability	Available water capacity	Reaction	Shrink-swell potential
	In	In/hr	In/in	pH	
ApB, ApC--------- Appling	0-10 10-45 45-56 56-72	2.0-6.0 0.6-2.0 0.6-2.0 ---	0.10-0.15 0.15-0.17 0.12-0.16 ---	4.5-5.5 4.5-5.5 4.5-5.5 ---	Low. Moderate. Low. ---
CaB, CaC--------- Cataula	0-7 7-26 26-53 53-70	2.0-6.0 0.2-0.6 0.06-0.2 0.2-0.6	0.08-0.11 0.13-0.18 0.06-0.08 0.10-0.15	4.5-6.0 4.5-6.0 4.5-6.0 4.5-6.0	Low. Moderate. Low. Low.
CcB, CcC, CcD---- Cecil	0-6 6-57 57-70	2.0-6.0 0.6-2.0 ---	0.12-0.14 0.13-0.15 ---	4.5-6.0 4.5-5.5 ---	Low. Moderate. ---
CeC2------------- Cecil	0-3 3-54 54-70	0.6-2.0 0.6-2.0 ---	0.13-0.15 0.13-0.15 ---	4.5-6.0 4.5-5.5 ---	Low. Moderate. ---
CpE*: Cecil-----------	0-6 6-57 57-70	2.0-6.0 0.6-2.0 ---	0.12-0.14 0.13-0.15 ---	4.5-6.0 4.5-5.5 ---	Low. Moderate. ---
Pacolet---------	0-8 8-40 40-62	2.0-6.0 0.6-2.0 ---	0.08-0.12 0.12-0.15 ---	4.5-6.0 4.5-6.0 ---	Low. Low. ---
Cw--------------- Chewacla	0-6 6-30 30-72	0.6-2.0 0.6-2.0 0.6-2.0	0.15-0.24 0.12-0.20 0.15-0.24	4.5-6.5 4.5-7.3 4.5-7.3	Low. Low. Low.
DaB2, DaC2------- Davidson	0-5 5-70	0.6-2.0 0.6-2.0	0.14-0.18 0.12-0.16	4.5-6.5 4.5-6.0	Low. Low.
DuB-------------- Durham	0-9 9-41 41-49 49-60	2.0-6.0 0.6-2.0 0.6-2.0 ---	0.06-0.10 0.12-0.16 0.08-0.14 ---	4.5-6.0 4.5-5.5 4.5-5.5 ---	Low. Low. Low. ---
EN*-------------- Enoree	0-4 4-35 35-65	2.0-6.0 2.0-6.0 2.0-6.0	0.08-0.14 0.10-0.15 0.05-0.12	5.1-7.3 5.1-7.3 5.1-7.3	Low. Low. Low.
EuA-------------- Eustis	0-9 9-74	6.0-20 6.0-20	0.08-0.10 0.07-0.11	4.5-5.5 4.5-5.5	Low. Low.
FaA, FaB, FaC---- Faceville	0-6 6-70	6.0-20 0.6-2.0	0.06-0.09 0.12-0.18	4.5-5.5 4.5-5.5	Low. Low.
GeB, GeC--------- Georgeville	0-6 6-42 42-53 53-72	0.6-2.0 0.6-2.0 0.6-2.0 0.6-2.0	0.15-0.20 0.13-0.18 0.13-0.18 0.05-0.10	4.5-6.0 4.5-5.5 4.5-5.5 4.5-5.5	Low. Low. Low. Low.
GgB2------------- Georgeville	0-4 4-40 40-51 51-72	0.6-2.0 0.6-2.0 0.6-2.0 0.6-2.0	0.13-0.18 0.13-0.18 0.13-0.18 0.05-0.10	4.5-6.0 4.5-5.5 4.5-5.5 4.5-5.5	Low. Low. Low. Low.
GoC, GoD, GoF---- Goldston	0-4 4-15 15-36 36-40	2.0-6.0 2.0-6.0 2.0-6.0 ---	0.10-0.15 0.10-0.15 0.05-0.10 ---	4.0-6.0 4.0-6.0 4.0-6.0 ---	Low. Low. Low. ---

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Map symbol and soil name	Depth	Permeability	Available water capacity	Reaction	Shrink-swell potential
	In	In/hr	In/in	pH	
GuD, GuE--------- Gundy	0-4 4-32 32-52 52-60	0.6-2.0 0.6-2.0 0.6-2.0 ---	0.14-0.20 0.10-0.19 0.12-0.18 ---	5.1-6.5 5.1-6.5 5.1-6.5 ---	Low. Moderate. Low. ---
HeB, HeC--------- Helena	0-13 13-46 46-61	2.0-6.0 0.06-0.2 ---	0.10-0.12 0.13-0.15 ---	4.5-6.0 4.5-5.5 ---	Low. High. ---
HrB, HrC--------- Herndon	0-6 6-55 55-70	0.6-2.0 0.6-2.0 0.6-6.0	0.14-0.20 0.13-0.18 0.05-0.08	4.5-6.5 3.6-5.5 3.6-5.5	Low. Low. Low.
HwB, HwC, HwD---- Hiwassee	0-5 5-70	0.6-2.0 0.6-2.0	0.10-0.14 0.12-0.15	4.5-6.5 4.5-6.5	Low. Low.
HyB2------------- Hiwassee	0-4 4-70	0.6-2.0 0.6-2.0	0.12-0.15 0.12-0.15	4.5-6.5 4.5-6.5	Low. Low.
KrB-------------- Kirksey	0-6 6-36 36-42 42	0.6-2.0 0.2-0.6 0.6-2.0 ---	0.15-0.22 0.12-0.18 0.11-0.15 ---	5.1-6.5 4.5-5.5 3.6-5.5 ---	Low. Low. Low. ---
LaB, LaC, LaE---- Lakeland	0-55 55-82	>20 >20	0.05-0.08 0.03-0.08	4.5-6.0 4.5-6.0	Very low. Very low.
LTE*: Lakeland-------- Troup-----------	0-55 55-82 0-53 53-61	>20 >20 6.0-20 0.6-2.0	0.05-0.08 0.03-0.08 0.03-0.10 0.10-0.13	4.5-6.0 4.5-6.0 4.5-5.5 4.5-5.5	Very low. Very low. Very low. Low.
MbA, MbB--------- Marlboro	0-8 8-48 48-72	2.0-6.0 0.6-2.0 0.6-2.0	0.09-0.14 0.14-0.18 0.12-0.18	5.1-6.0 5.1-6.5 4.5-6.0	Low. Low. Low.
MeB, MeC--------- Mecklenburg	0-8 8-41 41-50	0.6-2.0 0.06-0.2 ---	0.14-0.19 0.12-0.14 ---	5.6-7.3 5.6-7.3 ---	Low. Moderate. ---
NaD, NaE--------- Nason	0-4 4-35 35-70	0.6-2.0 0.6-2.0 0.6-2.0	0.14-0.20 0.12-0.19 0.15-0.20	4.5-6.5 4.5-5.5 4.5-5.5	Low. Moderate. Low.
NcA, NoB--------- Norfolk	0-15 15-71	6.0-20 0.6-2.0	0.06-0.10 0.10-0.15	4.5-6.0 4.5-5.5	Low. Low.
NoC-------------- Norfolk	0-15 15-71	6.0-20 0.6-2.0	0.06-0.10 0.10-0.15	4.5-6.0 4.5-5.5	Low. Low.
OrA, OrB--------- Orangeburg	0-16 16-23 23-54 54-72	2.0-6.0 2.0-6.0 0.6-2.0 0.6-2.0	0.06-0.08 0.07-0.10 0.10-0.13 0.10-0.13	4.5-6.0 4.5-5.5 4.5-5.5 4.5-5.5	Low. Low. Low. Low.
Re--------------- Rembert	0-5 5-27 27-73	0.6-2.0 0.06-0.2 0.6-2.0	0.12-0.17 0.12-0.16 0.12-0.15	4.5-6.0 4.5-5.5 4.5-5.5	Low. Low. Low.
Rv--------------- Riverview	0-40 40-72	0.6-2.0 2.0-6.0	0.16-0.24 0.07-0.11	4.5-5.5 4.5-5.5	Low. Very low.

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Map symbol and soil name	Depth	Permeability	Available water capacity	Reaction	Shrink-swell potential
	In	In/hr	In/in	pH	
To	0-7	2.0-6.0	0.09-0.12	5.1-6.5	Low.
Toccoa	7-77	2.0-6.0	0.06-0.12	5.1-6.5	Low.
TrB, TrC	0-53	6.0-20	0.03-0.10	4.5-5.5	Very low.
Troup	53-81	0.6-2.0	0.10-0.13	4.5-5.5	Low.
TWD*:					
Troup	0-53	6.0-20	0.03-0.10	4.5-5.5	Very low.
	53-81	0.6-2.0	0.10-0.13	4.5-5.5	Low.
Wagram	0-28	6.0-20	0.05-0.08	4.5-6.0	Low.
	28-70	0.6-2.0	0.12-0.16	4.5-5.5	Low.
Lakeland	0-55	>20	0.05-0.08	4.5-6.0	Very low.
	55-82	>20	0.03-0.08	4.5-6.0	Very low.
WaB, WaC	0-28	6.0-20	0.05-0.08	4.5-6.0	Low.
Wagram	28-70	0.6-2.0	0.12-0.16	4.5-5.5	Low.
WeE	0-13	2.0-6.0	0.08-0.12	4.5-6.0	Low.
Wateree	13-23	2.0-6.0	0.08-0.12	3.6-6.0	Low.
	23-38	2.0-6.0	0.04-0.12	3.6-6.0	Low.
	38-48	---	---	---	---
WkC, WkD	0-6	2.0-6.0	0.11-0.15	5.1-6.5	Low.
Wilkes	6-25	0.2-0.6	0.15-0.20	6.1-7.8	Moderate.
	25-44	---	---	---	---
WkE	0-6	2.0-6.0	0.11-0.15	5.1-6.5	Low.
Wilkes	6-25	0.2-0.6	0.15-0.20	6.1-7.8	Moderate.
	25-40	---	---	---	---
WnB, WnC, WnD	0-10	2.0-6.0	0.11-0.15	5.1-6.5	Low.
Winnsboro	10-35	0.06-0.2	0.15-0.20	6.1-7.8	High.
	35-61	0.2-0.6	0.15-0.20	6.1-7.8	Moderate.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 17.--SOIL AND WATER FEATURES

[The symbol > means more than. Absence of an entry indicates that the feature is not a concern]

Map symbol and soil name	Flooding			High water table			Bedrock		Risk of corrosion	
	Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	Uncoated steel	Concrete
				Ft			In			
ApB, ApC---- Appling	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
CaB, CaC---- Cataula	None	---	---	>6.0	---	---	>60	---	High	High.
CcB, CcC, CcD, CeC2---- Cecil	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
CpE*:										
Cecil----	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
Pacolet----	None	---	---	>6.0	---	---	>60	---	High	High.
Cw---- Chewacla	Common	Brief	Nov-Apr	0.5-1.5	Apparent	Nov-Apr	>60	---	High	Moderate.
DaB2, DaC2---- Davidson	None	---	---	>6.0	---	---	>60	---	High	Moderate.
DuB---- Durham	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
EN*---- Enoree	Frequent	Brief	Jan-Dec	0-1.0	Apparent	Nov-Apr	>60	---	High	Moderate.
EuA---- Eustis	None	---	---	>6.0	---	---	>60	---	Low	High.
FaA, FaB, FaC---- Faceville	None	---	---	>6.0	---	---	>60	---	Low	Moderate.
GeB, GeC, GgB2---- Georgeville	None	---	---	>6.0	---	---	>60	---	High	High.
GoC, GoD, GoF---- Goldston	None	---	---	>6.0	---	---	20-40	Rippable	Moderate	High.
GuD, GuE---- Gundy	None	---	---	>6.0	---	---	40-70	Rippable	High	High.
HeB, HeC---- Helena	None	---	---	1.0-2.5	Perched	Jan-Mar	48-70	Rippable	High	High.
HrB, HrC---- Herndon	None	---	---	>6.0	---	---	>60	---	High	High.
HwB, HwC, HwD, HyB2---- Hiwassee	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
KrB---- Kirksey	None	---	---	1.5-3.0	Perched	Dec-Mar	47-60	Rippable	Moderate	High.
LaB, LaC, LaE---- Lakeland	None	---	---	>6.0	---	---	>72	---	Low	Moderate.
LTE*:										
Lakeland----	None	---	---	>6.0	---	---	>72	---	Low	Moderate.
Troup----	None	---	---	>6.0	---	---	>60	---	Low	Moderate.

See footnote at end of table.

TABLE 17.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Flooding			High water table			Bedrock		Risk of corrosion	
	Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Uncoated steel	Concrete
				Ft			In			
MbA, MbB---------- Marlboro	None--------	---	---	>6.0	---	---	>60	---	High-------	High.
MeB, MeC---------- Mecklenburg	None--------	---	---	>6.0	---	---	48-60	Hard	High-------	Moderate.
NaD, NaE---------- Nason	None--------	---	---	>6.0	---	---	>45	Rip-pable	Moderate---	High.
NoA, NoB, NoC----- Norfolk	None--------	---	---	4.0-6.0	Apparent	Jan-Mar	>60	---	Moderate---	High.
OrA, OrB---------- Orangeburg	None--------	---	---	>6.0	---	---	>60	---	Moderate---	Moderate.
Re---------------- Rembert	Common------	Long------	Dec-Apr	0-1.0	Apparent	Nov-Apr	>60	---	High-------	High.
Rv---------------- Riverview	Common------	Brief-----	Dec-Mar	3.0-5.0	Apparent	Dec-Mar	>60	---	Low--------	Moderate.
To---------------- Toccoa	Occasional	Brief-----	Jan-Dec	2.5-5.0	Apparent	Dec-Apr	>60	---	Low--------	Moderate.
TrB, TrC---------- Troup	None--------	---	---	>6.0	---	---	>60	---	Low--------	Moderate.
TWD*:										
Troup------------	None--------	---	---	>6.0	---	---	>60	---	Low--------	Moderate.
Wagram-----------	None--------	---	---	>6.0	---	---	>60	---	Low--------	High.
Lakeland---------	None--------	---	---	>6.0	---	---	>72	---	Low--------	Moderate.
WaB, WaC---------- Wagram	None--------	---	---	>6.0	---	---	>60	---	Low--------	High.
WeE--------------- Wateree	None--------	---	---	>6.0	---	---	20-40	Rip-pable	Low--------	High.
WkC, WkD, WkE----- Wilkes	None--------	---	---	>6.0	---	---	40-80	Hard	Moderate---	Moderate.
WnB, WnC, WnD----- Winnsboro	None--------	---	---	>6.0	---	---	>60	---	High-------	Low.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 18.--ENGINEERING INDEX TEST DATA

[Dashes indicate data were not available. NP means nonplastic]

Soil name, report number, horizon, and depth in inches	Classification		Grain size distribution										Liquid limit	Plasticity index	Moisture density	
			Percentage passing sieve--							Percentage smaller than--					Max. dry density	Optimum moisture
	AASHTO	Unified	2 inch	3/4 inch	3/8 inch	No. 4	No. 10	No. 40	No. 200	.02 mm	.005 mm	.002 mm				
													Pct		Lb/ Ft³	Pct
Cataula sandy loam:[1] (S76SC-037-024)																
Ap------- 0 to 7	A-2-4(00)	SM	100	100	100	100	100	--	29	--	15	--	--	NP	--	--
B22t-----17 to 26	A-7-5(22)	CH	100	100	100	100	100	--	70	--	58	--	61	30	--	--
Bx2------35 to 53	A-7-5(19)	MH	100	100	100	100	100	--	75	--	63	--	59	22	--	--
B3-------53 to 70	A-7-5(16)	MH	100	100	100	100	100	--	68	--	56	--	59	21	--	--
Davidson sandy clay loam:[2] (S76SC-037-002)																
A1------- 0 to 5	A-4 (00)	SM	100	100	100	100	99	--	42	--	30	--	31	5	--	--
B22t-----18 to 52	A-7-6(18)	CH	100	100	100	100	99	--	70	--	65	--	55	26	--	--
B24t-----70 to 84	A-7-5(24)	MH	100	100	100	100	99	--	81	--	70	--	64	24	--	--
Faceville sandy loam:[3] (S71SC-019-004)																
Ap------- 0 to 6	A-2-4(00)	SM	100	100	100	100	87	--	26	--	14	--	--	NP	--	--
B21t----- 6 to 31	A-7-6(15)	CH	100	100	100	100	91	--	56	--	49	--	59	32	--	--
B23t-----55 to 70	A-7-6(04)	SC	100	100	100	100	100	--	43	--	35	--	43	19	--	--
Georgeville silt loam:[4] (S76SC-037-005)																
Ap------- 0 to 6	A-4 (09)	ML	100	100	100	100	99	--	87	--	70	--	39	9	--	--
B22t-----28 to 42	A-7-5(20)	MH	100	100	100	100	99	--	96	--	83	--	53	15	--	--
C--------53 to 72	A-7-5(16)	ML	100	100	100	100	99	--	95	--	76	--	45	13	--	--
Gundy silt loam:[5] (S76SC-037-019)																
A1------- 0 to 4	A-4 (01)	ML	100	100	100	91	80	--	62	--	22	--	34	3	--	--
B22t-----20 to 27	A-7-5(12)	ML	100	100	100	100	99	--	82	--	50	--	44	13	--	--
C1-------32 to 52	A-7-5(09)	ML	100	100	100	100	99	--	76	--	43	--	42	11	--	--
Helena sandy loam:[6] (S76SC-037-021)																
A2------- 3 to 13	A-2-4(00)	SM-SC	100	100	99	94	85	--	27	--	17	--	20	5	--	--
B22t-----22 to 33	A-7-5(19)	MH	100	100	100	100	96	--	68	--	60	--	61	26	--	--
C--------46 to 61	A-7-6(10)	ML	100	100	100	100	100	--	59	--	48	--	49	20	--	--
Herndon silt loam:[7] (S76SC-037-008)																
Ap------- 0 to 6	A-4 (00)	ML	100	100	100	93	90	--	69	--	15	--	--	NP	--	--
B22t-----20 to 35	A-7-5(20)	ML	100	100	100	100	99	--	92	--	56	--	48	18	--	--
C--------55 to 70	A-5 (10)	ML	100	100	100	100	99	--	89	--	43	--	41	9	--	--

See footnotes at end of table.

TABLE 18.--ENGINEERING INDEX TEST DATA--Continued

Soil name, report number, horizon, and depth in inches	Classification		Grain size distribution									Liquid limit	Plasticity index	Moisture density	
			Percentage passing sieve--						Percentage smaller than--					Max. dry density	Optimum moisture
	AASHTO	Unified	2 inch	3/4 inch	3/8 inch	No. 4	No. 10	No. 40	No. 200	.02 mm	.005 mm	.002 mm			
													Pct	Lb/ Ft³	Pct
Lakeland sand:[8] (S71SC-019-010)															
Ap------- 0 to 8	A-3 (01)	SP-SM	100	100	100	100	100	--	8	--	5	--	--	NP	--	--
C2-------21 to 41	A-2-4(00)	SP-SM	100	100	100	100	100	--	11	--	8	--	--	NP	--	--
C4-------55 to 82	A-3 (01)	SP-SM	100	100	100	100	100	--	7	--	4	--	--	NP	--	--
Nason loam:[9] (S76SC-037-013)															
A1------- 0 to 4	A-4 (00)	ML	100	100	96	86	81	--	63	--	21	--	--	NP	--	--
B22t------13 to 21	A-7-5(25)	MH	100	100	100	100	100	--	93	--	63	--	54	22	--	--
C1-------35 to 55	A-6 (13)	ML	100	100	100	100	100	--	89	--	50	--	40	13	--	--
Orangeburg loamy sand:[10] (S71SC-019-009)															
Ap------- 0 to 7	A-2-4(00)	SM	100	100	100	100	100	76	14	--	6	--	--	NP	--	--
B21t------25 to 34	A-7-5(14)	MH	100	100	100	100	100	89	58	--	54	--	58	26	--	--
B23t------49 to 72	A-7-5(04)	SM	100	100	100	100	100	86	45	--	39	--	46	16	--	--
Rembert loam:[11] (S76SC-037-011)															
Ap------- 0 to 5	A-4 (00)	ML	100	100	100	100	100	--	73	--	58	--	--	NP	--	--
B31g-----27 to 37	A-4 (03)	CL	100	100	100	100	100	--	64	--	47	--	27	9	--	--
Riverview loam:[12] (S76SC-037-026)															
Ap------- 0 to 7	A-4 (06)	ML	100	100	100	100	100	--	81	--	50	--	34	7	--	--
B22------20 to 40	A-4 (06)	ML	100	100	100	100	100	--	90	--	56	--	30	7	--	--
Toccoa fine sandy loam:[13] (S76SC-037-012)															
Ap------- 0 to 7	A-4 (00)	ML	100	100	100	100	100	--	62	--	18	--	--	NP	--	--
C2-------20 to 33	A-4 (03)	CL-ML	100	100	100	100	100	--	80	--	33	--	25	6	--	--
C6-------62 to 77	A-4 (00)	CL-ML	100	100	100	100	100	--	55	--	23	--	23	4	--	--
Troup sand:[14] (S71SC-019-008)															
Ap------- 0 to 9	A-3 (01)	SP-SM	100	100	100	100	100	--	10	--	3	--	--	NP	--	--
A2------- 9 to 53	A-2-4(00)	SM	100	100	100	100	100	--	13	--	5	--	--	NP	--	--
B2t------61 to 81	A-6 (01)	SC	100	100	100	100	100	--	37	--	30	--	34	12	--	--
Wagram sand:[15] (S71SC-019-003)															
Ap------- 0 to 7	A-2-4(00)	SP-SM	100	100	100	100	100	--	12	--	5	--	--	NP	--	--
B22t-----44 to 60	A-4 (00)	SM	100	100	100	100	100	--	36	--	29	--	34	10	--	--
B23t-----60 to 70	A-7-6(03)	SC	100	100	100	100	100	--	40	--	33	--	41	16	--	--

See footnotes at end of table.

TABLE 18.--ENGINEERING INDEX TEST DATA--Continued

Soil name, report number, horizon, and depth in inches	Classification		Grain size distribution									Liquid limit	Plasticity index	Moisture density	
			Percentage passing sieve--						Percentage smaller than--						
	AASHTO	Unified	2 inch	3/4 inch	3/8 inch	No. 4	No. 10	No. 40	No. 200	.02 mm	.005 mm	.002 mm			Max. dry density	Optimum moisture
													Pct		Lb/ Ft³	Pct
Winnsboro loam:[16] (S76SC-037-020)																
Ap------- 0 to 6	A-4 (00)	ML	100	100	95	88	81	--	52	12	--	--	--	NP	--	--
B22t-----22 to 35	A-7-6(46)	CH	100	100	100	100	90	--	80	60	--	--	81	53	--	--
C--------38 to 61	A-7-5(07)	ML	100	100	100	100	100	--	59	26	--	--	48	12	--	--
Winnsboro loam:[17] (S76SC-037-030)																
Ap------- 0 to 6	A-4 (05)	ML	100	100	100	100	100	--	74	--	49	--	34	8	--	--
B22t-----16 to 27	A-7-5(28)	MH	100	100	100	100	100	--	91	--	78	--	57	26	--	--
C--------35 to 39	A-4 (04)	ML	100	100	100	100	100	--	59	--	39	--	33	9	--	--
Winnsboro loam:[18] (S76SC-037-031)																
Ap------- 0 to 6	A-4 (00)	ML	100	100	100	100	100	--	54	--	22	--	28	3	--	--
B21t----- 6 to 15	A-7-5(40)	MH	100	98	94	87	77	--	72	--	60	--	92	50	--	--
C--------24 to 34	A-2-4(00)	SM	100	98	84	67	48	--	22	--	11	--	35	8	--	--
Winnsboro loam:[19] (S76SC-037-032)																
Ap------- 0 to 5	A-4 (04)	ML	100	100	100	97	90	--	61	--	31	--	38	7	--	--
B22t-----19 to 29	A-7-6(35)	CH	100	94	89	88	88	--	77	--	56	--	70	43	--	--
C--------29 to 36	A-4 (00)	SM	100	88	84	83	83	--	39	--	18	--	35	8	--	--

[1]Cataula sandy loam: 5.5 miles south of Edgefield; 0.3 mile east of Jeter Church; 325 feet north of secondary Highway 317.

[2]Davidson sandy clay loam: 4 miles south of Edgefield; 1.5 miles northeast of Horn Creek Church; 125 feet northwest of dirt road.

[3]Faceville sandy loam: 6.5 miles east of Edgefield; 0.5 mile southeast of South Carolina Highway 121; 125 feet northeast of field road; 350 feet west of pond.

[4]Georgeville silt loam: 8 miles northwest of Edgefield; 0.4 mile west of Brunson Crossroads; 340 feet south of Highway 283; 150 feet east of field road.

[5]Gundy silt loam: 13 miles west of Edgefield; 0.6 mile east of Stevens Creek; 150 feet north of Buzzard Branch.

[6]Helena sandy loam: 3.25 miles southeast of Edgefield; 0.75 mile southeast of junction of secondary Highways 40 and 90; 90 feet north of dirt road.

[7]Herndon silt loam: 7.5 miles northeast of Edgefield; 375 feet south of junction of Highways 21 and 18; 50 feet west of Highway 18.

[8]Lakeland sand: 9 miles southeast of Edgefield; 2.5 miles southwest of Highway 19; 50 feet southwest of dirt road.

[9]Nason loam: 3 miles nortnwest of Edgefield; 0.3 mile north of Beaverdam Creek; 75 feet south of dirt road.

[10]Orangeburg loamy sand: (The liquid limit and plasticity index for the 25- to 34-inch layer is higher than is allowed in the Orangeburg series) 0.5 mile southeast of Trenton; 0.25 mile northwest of Ebenezer Church; 450 feet southwest of East Main Street.

[11]Rembert loam: 3.5 miles southwest of Johnston; 1.9 miles northeast of junction of Highways 121 and 149; 0.25 mile southeast of Highway 121.

[12]Riverview loam: 8.75 miles northwest of Edgefield; 130 feet south of Turkey Creek on U.S. Highway 25; 100 feet west of Highway.

[13]Toccoa fine sandy loam: 1 mile northwest of Edgefield; 1 mile northeast of New Bethel Church; 1,075 feet northwest of Highway 25 Bypass; 70 feet north of Beaverdam Creek.

[14]Troup sand: 8.5 miles southeast of Edgefield; 1.25 miles east of U.S. Highway 25; 100 feet southwest of dirt road.

[15]Wagram sand: 4 miles southwest of Trenton; 1.8 miles northeast of junction of U.S. Highway 25 and County Road 37; 400 feet west of U.S. Highway 25.

[16]Winnsboro loam: 4.5 miles northeast of Edgefield; 1.25 miles north of Thurmond High School; 0.25 mile north of Highways 40 and 175; 450 feet east of dirt road.

[17]Winnsboro loam: 7.75 miles west of Edgefield; 850 feet south of Brunson Crossroads; 60 feet east of secondary Highway 51.

[18]Winnsboro loam: 2.75 miles east of U.S. Highways 25 and 375; 325 feet north of Highway 378; 50 feet east of dirt road.

[19]Winnsboro loam: 5.75 miles north of Edgefield; 1.5 miles northeast of Pine Grove Church; 0.5 mile south of Turkey Creek; 300 feet west of dirt road.

TABLE 19.--CLASSIFICATION OF THE SOILS

[An asterisk in the first column indicates that the soil is a taxadjunct to the series. See text for a description of those characteristics of the soil that are outside the range of the series]

Soil name	Family or higher taxonomic class
Appling	Clayey, kaolinitic, thermic Typic Hapludults
Cataula	Clayey, kaolinitic, thermic Typic Fragiudults
Cecil	Clayey, kaolinitic, thermic Typic Hapludults
Chewacla	Fine-loamy, mixed, thermic Fluvaquentic Dystrochrepts
Davidson	Clayey, kaolinitic, thermic Rhodic Paleudults
Durham	Fine-loamy, siliceous, thermic Typic Hapludults
Enoree	Coarse-loamy, mixed, nonacid, thermic Aeric Fluvaquents
*Eustis	Sandy, siliceous, thermic Psammentic Paleudults
Faceville	Clayey, kaolinitic, thermic Typic Paleudults
Georgeville	Clayey, kaolinitic, thermic Typic Hapludults
*Goldston	Loamy-skeletal, siliceous, thermic, shallow Ruptic-Ultic Dystrochrepts
Gundy	Fine, mixed, thermic Ultic Hapludalfs
Helena	Clayey, mixed, thermic Aquic Hapludults
Herndon	Clayey, kaolinitic, thermic Typic Hapludults
Hiwassee	Clayey, kaolinitic, thermic Typic Rhodudults
Kirksey	Fine-silty, siliceous, thermic Aquic Hapludults
Lakeland	Thermic, coated Typic Quartzipsamments
Marlboro	Clayey, kaolinitic, thermic Typic Paleudults
Mecklenburg	Fine, mixed, thermic Ultic Hapludalfs
Nason	Clayey, mixed, thermic Typic Hapludults
*Norfolk	Fine-loamy, siliceous, thermic Typic Paleudults
Orangeburg	Fine-loamy, siliceous, thermic Typic Paleudults
Pacolet	Clayey, kaolinitic, thermic Typic Hapludults
Rembert	Clayey, kaolinitic, thermic Typic Ochraquults
*Riverview	Fine-loamy, mixed, thermic Fluventic Dystrochrepts
Toccoa	Coarse-loamy, mixed, nonacid, thermic Typic Udifluvents
Troup	Loamy, siliceous, thermic Grossarenic Paleudults
Wagram	Loamy, siliceous, thermic Arenic Paleudults
Wateree	Coarse-loamy, mixed, thermic Typic Dystrochrepts
*Wilkes	Loamy, mixed, thermic, shallow Typic Hapludalfs
Winnsboro	Fine, mixed, thermic Typic Hapludalfs

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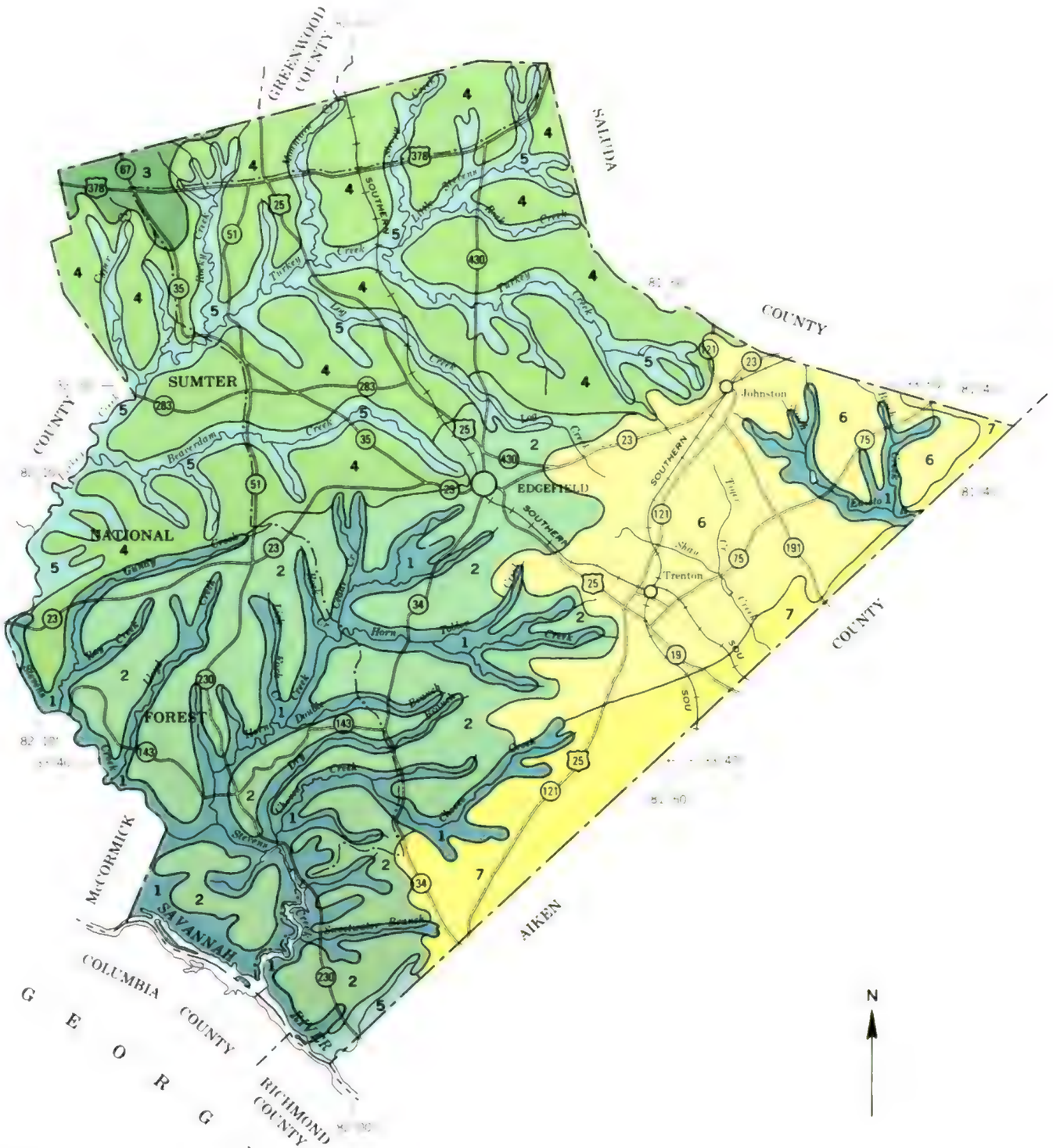


Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

LEGEND

1 — CECIL–PACOLET: Deep, strongly sloping and moderately steep, well drained soils that have a loamy surface layer and a clayey subsoil

2 — CECIL–CATAULA–HIWASSEE: Deep, gently sloping to strongly sloping, well drained soils that have a loamy surface layer and a mostly clayey subsoil

3 — APPLING–DURHAM–CATAULA: Deep, gently sloping to sloping, well drained soils that have a loamy or a sandy surface layer and a clayey or a loamy subsoil

4 — GEORGEVILLE–HERNDON–KIRKSEY: Deep, gently sloping to sloping, well drained and moderately well drained soils that have a silty surface layer and a clayey, a loamy, or a silty subsoil

5 — GUNDY–GOLDSTON–NASON: Deep to moderately deep, sloping to steep, well drained soils that have a silty or a loamy surface layer and a clayey, a loamy, or a silty subsoil

6 — WAGRAM–FACEVILLE–NORFOLK: Deep, nearly level to sloping, well drained soils that have a sandy or a loamy surface layer and a loamy or a clayey subsoil

7 — LAKELAND–TROUP–WAGRAM: Deep, nearly level to moderately steep, excessively drained and well drained soils that have a sandy surface layer and a loamy subsoil or sandy underlying material

Compiled 1979

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FOREST SERVICE
SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION
SOUTH CAROLINA LAND RESOURCES CONSERVATION COMMISSION

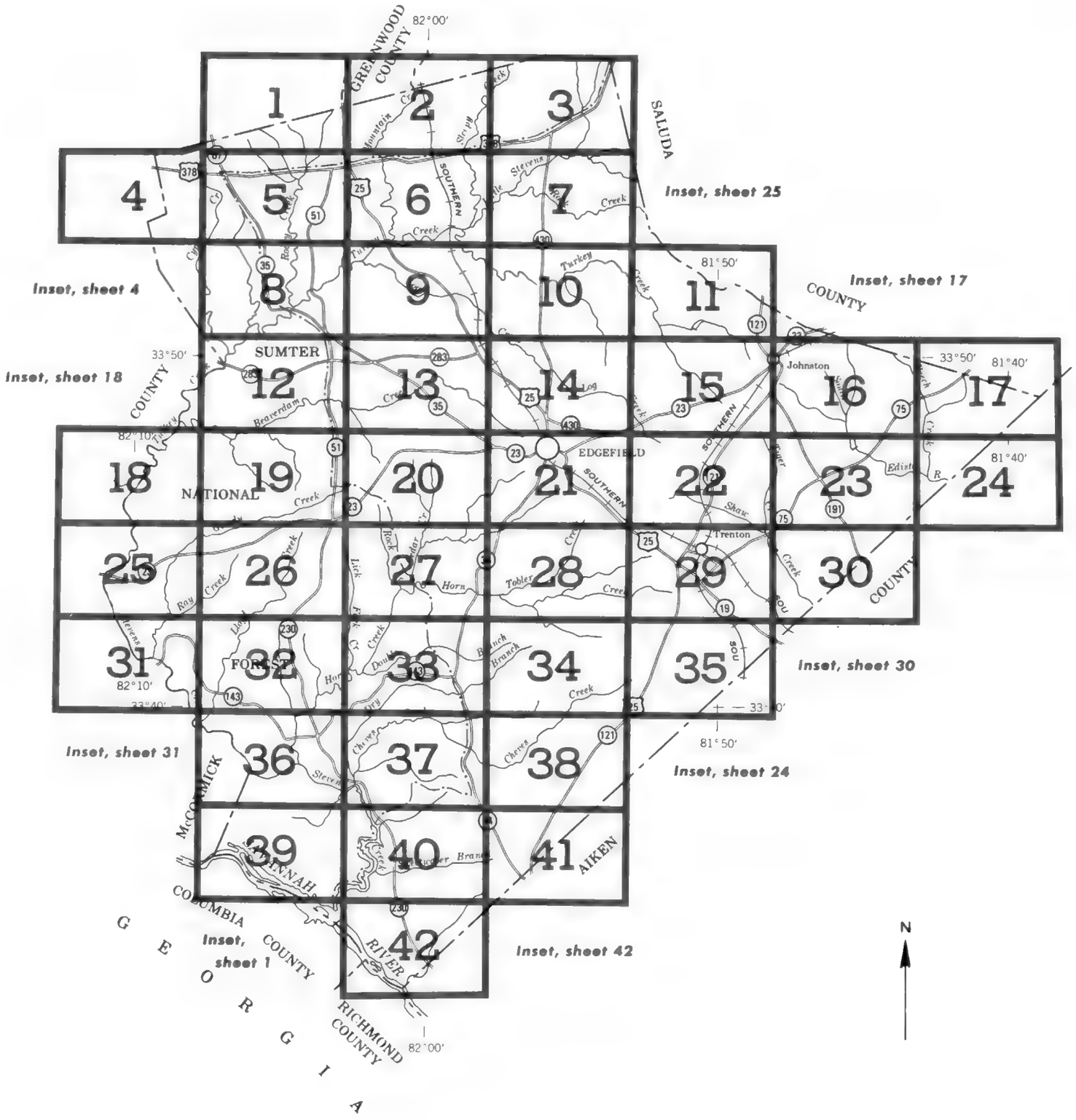
GENERAL SOIL MAP

EDGEFIELD COUNTY, SOUTH CAROLINA

Scale 1:253,440

1 0 1 2 3 4 Miles

1 0 4 8 Km



INDEX TO MAP SHEETS

EDGEFIELD COUNTY, SOUTH CAROLINA

Scale 1:253,440

1 0 1 2 3 4 Miles

1 0 4 8 Km

SOIL LEGEND

The first capital letter is the initial one of the soil name. The second position is a lower case letter for a narrowly defined unit and a capital letter for a broadly defined unit. 1/ The third position, if used, is a capital letter and connotes slope class. Symbols without a slope letter are for nearly level soils. A final number of 2 in the symbol shows the soil is eroded.

SYMBOL	NAME
ApB	Appling sandy loam, 2 to 6 percent slopes
ApC	Appling sandy loam, 6 to 10 percent slopes
CaB	Cataula sandy loam, 2 to 6 percent slopes
CaC	Cataula sandy loam, 6 to 10 percent slopes
CcB	Cecil sandy loam, 2 to 6 percent slopes
CcC	Cecil sandy loam, 6 to 10 percent slopes
CcD	Cecil sandy loam, 10 to 15 percent slopes
CeC2	Cecil sandy clay loam, 2 to 10 percent slopes, eroded
CpE	Cecil-Pacolet complex, 15 to 25 percent slopes
Cw	Chewacla loam
DaB2	Davidson sandy clay loam, 2 to 6 percent slopes, eroded
DaC2	Davidson sandy clay loam, 6 to 10 percent slopes, eroded
DuB	Durham loamy sand, 2 to 6 percent slopes
EN	Enoree soils
EuA	Eustis loamy sand, 0 to 2 percent slopes
FaA	Faceville sandy loam, 0 to 2 percent slopes
FaB	Faceville sandy loam, 2 to 6 percent slopes
FaC	Faceville sandy loam, 6 to 10 percent slopes
GeB	Georgeville silt loam, 2 to 6 percent slopes
GeC	Georgeville silt loam, 6 to 10 percent slopes
GgB2	Georgeville silty clay loam, 2 to 6 percent slopes, eroded
GoC	Goldston slaty silt loam, 6 to 10 percent slopes
GoD	Goldston slaty silt loam, 10 to 15 percent slopes
GoF	Goldston slaty silt loam, 15 to 40 percent slopes
GuD	Gundy silt loam, 10 to 15 percent slopes
GuE	Gundy silt loam, 15 to 25 percent slopes
HeB	Helena sandy loam, 2 to 6 percent slopes
HeC	Helena sandy loam, 6 to 10 percent slopes
HrB	Herndon very fine sandy loam, 2 to 6 percent slopes
HrC	Herndon very fine sandy loam, 6 to 10 percent slopes
HwB	Hiwassee sandy loam, 2 to 6 percent slopes
HwC	Hiwassee sandy loam, 6 to 10 percent slopes
HwD	Hiwassee sandy loam, 10 to 15 percent slopes
HyB2	Hiwassee sandy clay loam, 2 to 6 percent slopes, eroded
KrB	Kirksey silt loam, 2 to 6 percent slopes
LaB	Lakeland sand, 0 to 6 percent slopes
LaC	Lakeland sand, 6 to 10 percent slopes
LaE	Lakeland sand, 10 to 25 percent slopes
LTE	Lakeland and Troup sands, 15 to 25 percent slopes
MbA	Marlboro sandy loam, 0 to 2 percent slopes
MbB	Marlboro sandy loam, 2 to 6 percent slopes
MeB	Mecklenburg sandy loam, 2 to 6 percent slopes
MeC	Mecklenburg sandy loam, 6 to 10 percent slopes
NaD	Nason loam, 10 to 15 percent slopes
NaE	Nason loam, 15 to 25 percent slopes
NoA	Norfolk loamy sand, 0 to 2 percent slopes
NoB	Norfolk loamy sand, 2 to 6 percent slopes
NoC	Norfolk loamy sand, 6 to 10 percent slopes
OrA	Orangeburg loamy sand, 0 to 2 percent slopes
OrB	Orangeburg loamy sand, 2 to 6 percent slopes
Re	Rembert loam
Rv	Riverview silt loam
To	Toccoa sandy loam
TrB	Troup sand, 0 to 6 percent slopes
TrC	Troup sand, 6 to 10 percent slopes
TWD	Troup, Wagram, and Lakeland sands, 10 to 15 percent slopes
WaB	Wagram sand, 0 to 6 percent slopes
WaC	Wagram sand, 6 to 10 percent slopes
WeE	Wateree sandy loam, 10 to 25 percent slopes
WkC	Wilkes sandy loam, 6 to 10 percent slopes
WkD	Wilkes sandy loam, 10 to 15 percent slopes
WkE	Wilkes sandy loam, 15 to 40 percent slopes
WnB	Winnsboro fine sandy loam, 2 to 6 percent slopes
WnC	Winnsboro fine sandy loam, 6 to 10 percent slopes
WnD	Winnsboro fine sandy loam, 10 to 15 percent slopes

1/ Consecutive capital letters in the map symbol indicate the composition of the unit is more variable than others in the survey area. Mapping has been controlled well enough to be interpreted for the anticipated uses of the areas involved

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline
- AD HOC BOUNDARY (label)
- Small airport, airfield, park, oilfield, cemetery, or flood pool

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS

- Interstate
- Federal
- State
- County, farm or ranch

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label)
- Located object (label)
- Tank (label)
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
- Double-line (label)
- Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial
- Intermittent

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown)

MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot
- Water, 2 acres or less
- Borrow area

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 1

This map is compiled on 1976 aerial photography by the U.S. Department of Agriculture Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned

(Joins sheet 39)

SUMTER NATIONAL FOREST

SAVANNAH RIVER

COLUMBIA COUNTY GEORGIA

STEVENS CREEK

STEVENS CREEK DAM

(Joins sheet 42)

McCORMICK COUNTY

Wilson Branch

Stockman Branch

Rocky Creek

GREENWOOD COUNTY

(Joins sheet 2)

(Joins sheet 5)

N

1 Mile 5000 Feet

Scale 1:20000

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 2

(2)

N

1 Mile 5000 Feet

0 1:20000

Scale 1:20000

SALUDA COUNTY

GREENWOOD COUNTY

SUMTER

NATIONAL FOREST

Boles Mountain

Bell Branch

Clouds Creek Branch

GuD Creek

Little Mountain

Stevens Creek

Mountain

(Joins sheet 1)

(Joins sheet 3)

(Joins sheet 6)

EDGEFIELD COUNTY, SOUTH CAROLINA

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 3

3

N

SALUDA COUNTY

SUMTER NATIONAL FOREST

Sleepy Creek

Stevens Creek

Little Stevens Creek

water

(Joins sheet 2)

(Joins sheet 7)

1 Mile

5000 Feet

Scale 1:20000

0 1000 2000 3000 4000 5000

4

N

Scale 1:20000

1 Mile 5000 Feet

0 ½ ¾ 1 1½ 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

(Joins lower right)

(Joins sheet 8)

(Joins sheet 12)

(Joins upper left)

(Joins sheet 5)

McCORMICK COUNTY

Sandhill Branch

Byrd Creek

Creek

HrC HrB KrB GeB NaD To HeB ApB ApC CcB CcC CcD DuB HwB HwC WnB CaB WeE GoC GoD GeB

This map is compiled on 1976 aerial photographs taken by U.S. Department of Agriculture. Soil Conservation Service and cooperating agencies. Coordinate grid ticks and grid lines or corners, if shown, are approximately plus or minus

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 4

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 5

5

N

GREENWOOD COUNTY

Mayson Crossroads

Sullivan Crossroads

SUMTER NATIONAL FOREST

Corley Pond

Cantledge Branch

Wilson Branch

Stockmon Branch

Cuner Creek

Bailey Branch

Rocky Creek

(Joins sheet 1)

(Joins sheet 4)

(Joins sheet 6)

(Joins sheet 8)

1 Mile

5,000 Feet

Scale 1:20000

This map was compiled on 1983 aerial photographs by the U.S. Department of Agriculture, Soil Conservation Service and Cooperating Agencies
Coordinate grid ticks and roads shown are approximately correct

6

N

Scale · 1 : 20000

1 Mile 5000 Feet

0 0 ½ 1000 ½ 2000 ¾ 3000 ¾ 4000 1 5000

(Joins sheet 2) GoF

(Joins sheet 5)

(Joins sheet 7)

GoD (Joins sheet 9) To

SUMTER NATIONAL FOREST

Mountain Creek

Heg Branch

Turkey Creek

Stevens Creek

Little Sleepy Creek

Pleasant Lane

Limestone

water

wood

SOUTHERN

This map was compiled from aerial photographs by the U. S. Soil Conservation Service and cooperating agencies
Control grid ticks and ditch on corners - projection is polyconic

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 7

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners if shown, are approximately positioned.

1 710 000 FEET

SUMTER NATIONAL FOREST

(Joins sheet 3)

340 000 FEET

(Joins sheet 6)

(Joins inset, sheet 25)

(Joins sheet 10)

1 730 000 FEET

Stevens Creek

Little Stevens Creek

Rocky Creek

Little Rocky Creek

Water

1 Mile

5000 Feet

Scale 1:20000

N

7

8

N

1 Mile

5,000 Feet

Scale 1:20000

(Joins sheet 5)

(Joins inset, sheet 4)

(Joins sheet 9)

(Joins sheet 12)

SUMTER NATIONAL FOREST

Cleora

Pike Branch

Bailey Branch

Rocky Branch

Turkey Creek

Horse Creek

Cuper Creek

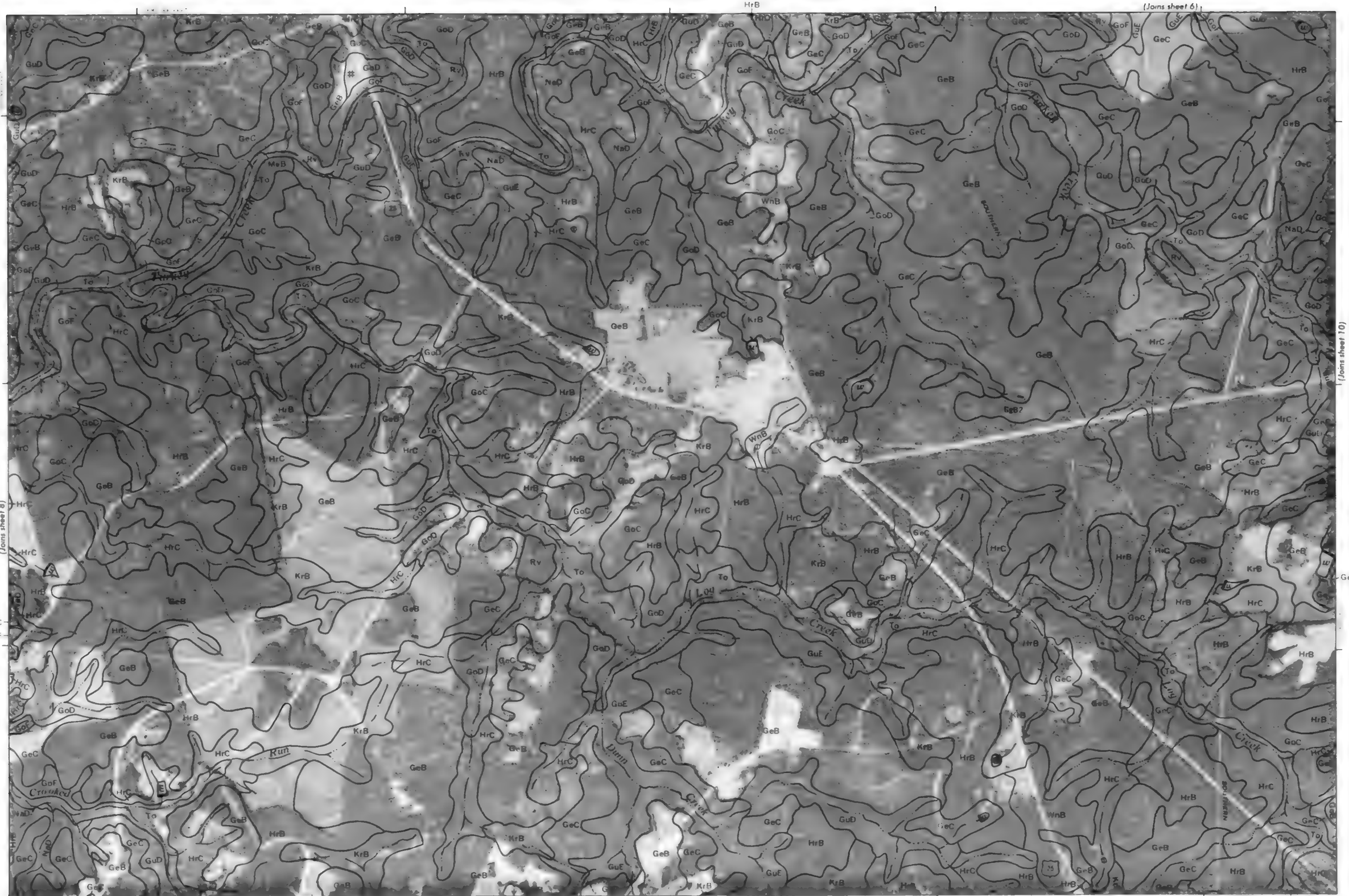
Water

HrC HrB GeB To ApB HeB KrB GoD GeC GuD NaD GgB2 GoF WnB MrC

This map was compiled on 1976 aerial photography by the U.S. Department of Agriculture Soil Conservation Service and cooperating agencies
Soil boundaries and symbols are shown as solid lines
Coordinate grid ticks and land divisions are shown as dashed lines

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 8

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 9



9

N

1 Mile

5000 Feet

Scale 1:20000

EDGEFIELD COUNTY SOUTH CAROLINA NO. 9

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 10

10

N

1 Mile

5000 Feet

Scale · 1:20000

(Joins sheet 7)

(Joins sheet 9)

(Joins sheet 11)

(Joins sheet 14)

1 730 000 FEET

Turkey Creek

Sawing Branch

This map was compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners or steam are approximately positioned

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 10

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 11

This map is compiled on 1976 aer a photography by the U S Department of Agriculture Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners if shown are approximately positioned

(Joins inset, sheet 25)

(Joins sheet 10)

(Joins inset, sheet 17)

(Joins sheet 15)

SALUDA COUNTY

Turkey Creek

Bubbling Branch

11

N

1 Mile

5000 Feet

0

Scale 1:20000

1 ½ 2 2½ 3 3½ 4 4½ 5 5000

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 12

(Joins sheet 8)

(Joins sheet 19)

(Joins inset, sheet 18)

(Joins sheet 13)

McCORMICK COUNTY

Turkey Creek

Broad Water Branch

Cutley Branch

Mass Branch

Bear Dam Creek

SUMTER NATIONAL FOREST

Brunson Crossroads

1 Mile

5000 Feet

Scale · 1:20000

This map compiled on 1976 aerial photography by the U.S. Department of Agriculture Soil Conservation Service and cooperating agencies
Coordinate grid ticks and grid division corners shown are approximately 4,000 feet apart

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 12

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 13

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 13

This map is compiled on 1976 aerial photography by the U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned

1 695 000 FEET

1 705 00

(Joins sheet 9)

(Joins sheet 14)

(Joins sheet 12)

(Joins sheet 20)

13

N

1 Mile

5000 Feet

0

Scale 1:20000

14

N

1 Mile

5,000 Feet

Scale 1:20000

(Joins sheet 10)

(Joins sheet 13)

(Joins sheet 15)

(Joins sheet 21)

Log Creek

Spring Branch

Southern

Beaverdam Creek

water

To

25

GeB GeC GoC GoD HrB HrC Rv GuD GuE WnB NaD NaE MeB MeC HeB HeC GeB2 CcB CcC CcD CpC CpE WnC WnD KrB ApB ApC DaB NoB NoC WaB FaB

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture. Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 14

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 15

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 15

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned

(Joins sheet 11)

(Joins sheet 14)

(Joins sheet 16)

(Joins sheet 22)

1 000 000 FEET

15

N

1 Mile

5000 Feet

Scale 1:20000

16

N

Scale 1:20000

1 Mile 5000 feet

(Joins inset sheet 17)

(Joins sheet 15)

(Joins sheet 17)

(Joins sheet 23)

SALUDA COUNTY

JOHNSTON

Hull Branch South Fork

Rocky Creek

Reservoir

Hill Rock Branch

Turkey Branch

Ellis Ford

Edgefield County, South Carolina No. 16

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 17

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned

1,785,000 FEET

310,000 FEET

1,757,000 FEET

314,000 FEET

311,000 FEET

1,762,000 FEET

(Joins sheet 11)

(Joins sheet 16)

(Joins sheet 16)

(Joins sheet 24)

SALUDA COUNTY

AIKEN COUNTY

Bog Branch

Rock Pitts Branch

Creek

water

TWD

LYE

17

N

1 Mile

5000 Feet

Scale 1:20000

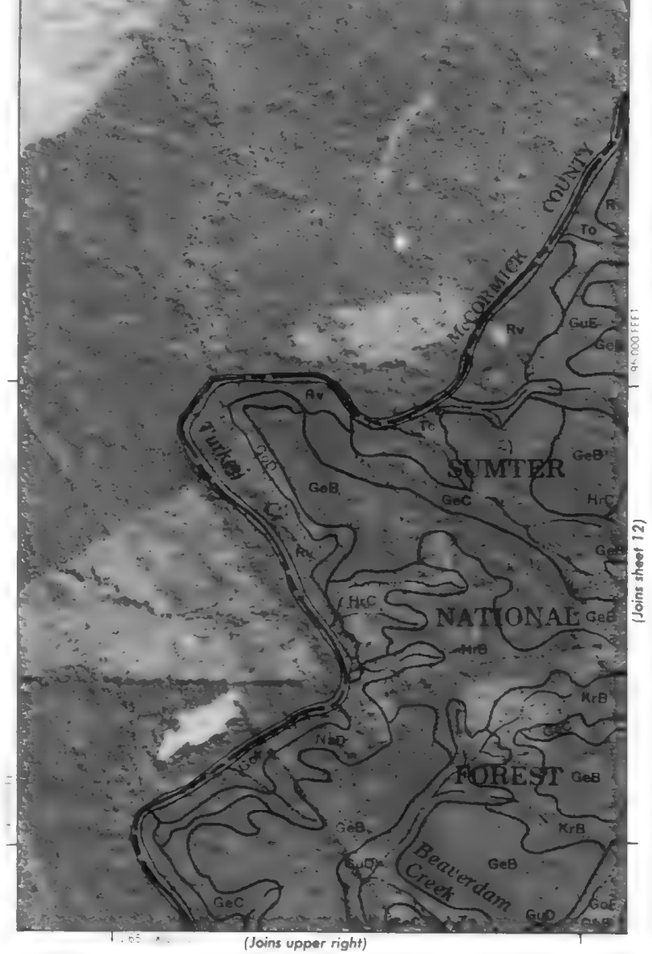
0 1000 2000 3000 4000 5000

18

N

1 Mile
5000 Feet
0
0
Scale 1:20000
1000
2000
3000
4000
5000

1 658 000 FEET



(Joins upper right)

(Joins sheet 12)

(Joins inset)

(Joins sheet 19)

(Joins sheet 25)

EDGEFIELD COUNTY SOUTH CAROLINA NO. 18

1 660 000 FEET

(Joins sheet 12)

290 000 FEET

(Joins sheet 18)

(Joins sheet 20)

(Joins sheet 26)

1 680 000 FEET

N

SUMTER NATIONAL FOREST

Beaverdam Creek

Red Hill

Spring Branch

Camp Branch

Johnson Crossroads

Red Hill

Glady

1 Mile

5000 Feet

Scale 1:20000

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 19

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies

Coordinate grid ticks and land division corners shown are approximately positioned

20

N

1 Mile

5000 Feet

Scale 1:20000

(Joins sheet 13)

(Joins sheet 19)

(Joins sheet 21)

(Joins sheet 27)

SUMTER NATIONAL FOREST

Beaverdam Creek

Little Chup Branch

Rock Creek

GgB2 GeB GeC GuD GuE HrC WnB WnC WnD ApB ApC CcB CcC CcD CcE CaB CaC CaG HeB HwB HwC HwD MeB MeC WkD WkE DaB2 DaC2 To

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies
Coordinate grid ticks and division corners (shown thus ⊕) are approximate positions

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 20

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 21

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 21

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned

1 710 000 FEET

(Joins sheet 14)

(Joins sheet 20)

(Joins sheet 28)

(Joins sheet 22)

21

N

1 Mile

5000 Feet

Scale 1:20000

EDGEFIELD
(county seat)

Beaverdam Creek

Slade Lake

Huiets Crossroads

Parkhill

Cedar Creek

SOUTHERN

water

22

N

(Joins sheet 15)

(Joins sheet 21)

(Joins sheet 23)

(Joins sheet 29)

1 Mile

5000 Feet

Scale 1:20000

Beaverdam Creek

Shaw Creek

Saltes Pond

Boulknight Southern

water

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 22

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 23

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned

(23)

N

1 Mile
5000 Feet

Scale 1:20000

(Joins sheet 16)

(Joins sheet 24)

(Joins sheet 22)

(Joins sheet 30)

1 261 000 FEET

290 000 FEET

South Fork Edisto River

Yonce Pond

Holmes Pond

Durkes Pond

Long Branch

Tiltire Branch

Satcher Branch

Bull Branch

AIKEN COUNTY

24

N

(Joins sheet 17)

(Joins sheet 23)

(Joins sheet 35)

(Joins sheet 38)

AIKEN COUNTY

Beech Creek

South Fork Edisto River

Scale 1:20000

1 Mile 5000 Feet

0 1000 2000 3000 4000 5000

0 ½ ¾

This map is compiled on 1936 aerial photography by the U.S. Department of Agriculture Soil Conservation Service and cooperating agencies
Shown are approximate positioned coordinate grid ticks and land division corners.

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 24

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 25

25

N

1 732 000 FEET

1 645 000 FEET

275 000 FEET

(Joins sheet 18)

(Joins sheet 7)

(Joins sheet 11)

(Joins sheet 31)

(Joins sheet 26)

SUMTER

NATIONAL

FOREST

STEVENS CREEK

McCORMICK COUNTY

SALUDA COUNTY

Buzzard Branch

Cuffey Branch

Rocky Creek

Cuttyhunk Creek

Turkey Creek

Ruff Creek

HeC

CcB

CcC

1 Mile

5000 Feet

Scale 1:20000

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 25

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and supporting data
Coordinate grid ticks and land division corners, if shown, are approximately positioned

26

N

1 Mile

5000 Feet

Scale 1:20000

1 0 ½ 0 ½ 1 Kilometer

1 000 0 1000 2000 3000 4000 5000 Meters

1 680 000 FEET

(Joins sheet 19)

(Joins sheet 25)

(Joins sheet 27)

(Joins sheet 32)

SUMTER NATIONAL FOREST

Millers Crossroads

West Store Crossroads

Gundy Creek

Old Branch

Lloyd Creek

Ray Creek

Miller Branch

Big Branch

Fork Creek

Luck Water

Water Creek

This map was compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and cooperating agencies
Roads may be shown generally but not in their true positions
Coordinate grid ticks and land divisions on corners, if shown, are approximately positioned

EDGEFIELD COUNTY, SOUTH CAROLINA

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 27

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 27

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture. Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned

1 685 000 FEET

1 275 000 FEET

(Joins sheet 20)

(Joins sheet 26)

(Joins sheet 33)

1 705 000 FEET

SUMTER

NATIONAL FOREST

Rock Creek

Cedar Creek

Horn Creek

Lick Fork Lake

Lick Fork Creek

Miller Branch

Water

N

1 Mile

5000 Feet

Scale 1:20000

0 ½ 1000 2000 3000 4000 5000

28

N

(Joins sheet 21)

(Joins sheet 27)

(Joins sheet 29)

(Joins sheet 34)

Scale 1:20000

1 Mile 5000 Feet

1 0 1 2 3 4 5 Kilometers

1000 2000 3000 4000 5000

Cedar Creek

Hog Eye Branch

Tubler Creek

Horn Creek

Quarles Creek

To Clearwater Branch

Southern

water

This map is compiled on 1976 aerial photography by the U S Department of Agriculture Soil Conservation Service and cooperating agencies
Coordinate grid ticks and grid division corners, if shown, are approximately positioned

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 28

(Joins sheet 22)

(Joins sheet 28)

(Joins sheet 30)

(Joins sheet 35)

29

N

1 Mile

5000 Feet

Scale 1:20000

1 755 000 FEET

Trenton

Pine House Crossroads

Potatata

TRENTON MUNICIPAL AIRPORT

STATE FOREST-RECREATIONAL AREA

Quarter Creek

Shuler Creek

Creek

Branch

SOUTHERN

NoA NoB NoC WaB WaC FaB FaC FaA OrA OrB MbB TrB LaB LaC LTE CpE ApC CcB Re

30

N

Scale 1:20000

1 Mile 5000 Feet

0 ¼ ½ ¾ 1

0 1000 2000 3000 4000 5000

(Joins sheet 23)

(Joins sheet 29)

(Joins inset, upper right)

(Joins lower left)

(Joins sheet 35)

780 000 FEET

NoB NoA WaB FaB FaC TrB LaC LaB WaC LTE EN TWD NoC CeD CeF MbA OrA FaA Re

AIKEN COUNTY

Creek

Branch

Pond

Lake

This map was compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land lines on corners if shown are approximately positioned

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 30

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 31

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned

(31)

N

1 Mile
5000 Feet

Scale 1:20000

1 0 1 0 5000 4000 3000 2000 1000 0

¾ ½ ¼

(Joins sheet 32)

(Joins sheet 25)

1 655 000 FEET

2 040 000 FEET

SUMTER

NATIONAL

McCORMICK COUNTY

FOREST

Sandy Creek

(Joins upper left)

(Joins lower right)

(Joins sheet 36)

3000 AND 5000 FOOT GRID TICKS 1 658 000 FEET

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 32

32

N

(Joins sheet 26)

(Joins sheet 31)

(Joins sheet 33)

(Joins sheet 36)

1 Mile

5000 Feet

Scale 1:20000

0 1000 2000 3000 4000 5000

1 0 ½ 0 ¼ ½ ¾ 1

1:680 000 FEET

WkE

CpE

ApC

CcC

Brush

Carey Hill

Hwy

Creek

Fork

This map was compiled on 1976 aerial photography by the U. S. Department of Agriculture. Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown are approximately positioned

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 32

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 33
This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned

1,685,000 FEET

(Joins sheet 27)

(Joins sheet 32)

(Joins sheet 34)

(Joins sheet 37)

SUMTER

NATIONAL

FOREST

Rogers Crossroads

Creek

Fork

Dry

Branch

Horn

33

N

1 Mile

5,000 Feet

Scale 1:20000

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 34

34

N

1 Mile
5000 Feet

Scale 1:20000

(Joins sheet 28)

1 730 000 FEET

(Joins sheet 33)

(Joins sheet 35)

(Joins sheet 38)

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 34

This map is compiled on 1975 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 35

35

N

1 Mile

5000 Feet

Scale 1:20000

(Joins sheet 29)

(Joins inset, sheet 30)

(Joins sheet 34)

(Joins inset, sheet 24)

AIKEN COUNTY

Holmes Pond

Mathis Pond

Carpenter Pond

Horse Creek

SOUTHERN

1 000 000 FEET

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 35

This map is compiled on 1976 aerial photography by the U.S. Department of Agriculture Soil Conservation Service and [illegible] lines shown are approximately positioned.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

36

N

(Joins sheet 32)

(Joins sheet 31)

SUMTER

NATIONAL

STEVENS

FOREST

McCORMICK COUNTY

Lloyd Creek

Horn Creek

Williams Branch

Branch

CREEK

water

1 Mile

5000 Feet

Scale 1:20000

1 0 1 2 3 4 5 Kilometers

1 000 2000 3000 4000 5000 Meters

1 680 000 FEET

230 000 FEET

(Joins sheet 39)

(Joins sheet 37)

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service. Roads are shown as they appeared in 1976. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 36

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 37

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service
Coordinate grid ticks and land division corners, if shown, are approximately positioned

(Joins sheet 33)
(Joins sheet 36)
(Joins sheet 38)
(Joins sheet 40)

1 685 000 FEET
215 000 FEET
1 705 000 FEET

SUMTER
NATIONAL
FOREST

Dry Branch
To Creek
Cheves Creek
Big water
Stevens Creek
Burkhalter Branch
Creek
Branch
water

CaB CaC CcB CcC CcD CpE HwB HwC WkD WkE WnB WnC ApB ApC MeB HeB HeC WaB TrB DaB2

34

N

1 Mile
5000 Feet
Scale 1:20000
0 1000 2000 3000 4000 5000

38

N

(Joins sheet 34)

(Joins sheet 37)

(Joins sheet 41)

1 Mile 5000 Feet

Scale 1:20000

0 ¼ ½ ¾ 1 1 000 2 000 3 000 4 000 5 000

1 240 000 FEET

Burkhalter Branch

Spring Branch

Cheves Creek

Monday Branch

Baker's Branch

Woodward Lake

AIKEN COUNTY

EDGEFIELD COUNTY, SOUTH CAROLINA SHEET NO. 38

This map was compiled on 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and mapping units as Coordinate grid ticks and land division corners if shown, are approximately positioned.

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 39

39

N

1 660 000 FEET

225 000 FEET

(Joins sheet 36)

(Joins sheet 40)

(Joins inset, sheet 1)

1 680 000 FEET

1 215 000 FEET

SUMTER NATIONAL FOREST

McCORMICK COUNTY

COLUMBIA COUNTY, GEORGIA

SAVANNAH RIVER

STEVENS CREEK

Reedy Branch

Deep Step Branch

Morgalop

water

1 Mile

5000 Feet

Scale · 1:20000

CcD CcD HwB

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 39

This map is compiled on 1936 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 40

40

N

(Joins sheet 37)

(Joins sheet 39)

(Joins sheet 41)

(Joins sheet 42)

1 705 000 FEET

1 685 000 FEET

SUMTER NATIONAL FOREST

STEVENS CREEK

AIKEN COUNTY

Stevens Creek

Hardy Branch

Sweetwater Branch

Anderson Branch

water

1 Mile 5000 Feet

Scale 1:20000

0 0

1/4 1/2 3/4 1

1000 2000 3000 4000 5000

This map was compiled on 1976 aerial photography by the U.S. Department of Agriculture Soil Conservation Service and cooperating agencies

Coordinate grid ticks and land division corners, if shown, are approximately positioned

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 40

EDGEFIELD COUNTY, SOUTH CAROLINA — SHEET NUMBER 41

41

EDGEFIELD COUNTY, SOUTH CAROLINA NO. 41

This map is compiled on 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

1 710 000 FEET

(Joins sheet 38)

2225 000 FEET

(Joins sheet 40)

1 730 000 FEET

2215 000 FEET

AIKEN COUNTY

Sweetwater Branch

N

1 Mile
5000 Feet

Scale 1:20000

(42)

N

(Joins sheet 40)

Tp

TrC

1 705 000 FEET

2 210 000 FEET

(Joins inset, sheet 1)

1 200 000 FEET

1 685 000 FEET

Stevens Creek

Poverty Hill

water

COUNTY

AIKEN COUNTY

SAVANNAH RIVER

COLUMBIA COUNTY

GEORGIA

RICHMOND COUNTY

1 Mile

5000 Feet

Scale 1:20000

0 0

1/4 1000

1/2 2000

3/4 3000

1 4000

5000

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EDGEFIELD COUNTY, SOUTH CAROLINA NO. 42